

NATURE'S YEAR

THE SEASONS OF CAPE COD

with woodcuts by David Grose



JOHN HAY

AUTHOR OF "THE RUN"

N.Y.
\$4.50

NATURE'S YEAR

THE SEASONS OF CAPE COD

JOHN HAY

with woodcuts by David Grose

Set among the dunes, marshes, and lowlands of Cape Cod, NATURE'S YEAR unfolds the beauty and cruelty of nature through the changing seasons. Beginning in July when the Cape is bursting with the human and natural life of summer, it progresses month by month through the never-ending cycle of birth, death, and rebirth, implicitly stating that in human life as well as in nature, one finds "death in life" and "life in death."

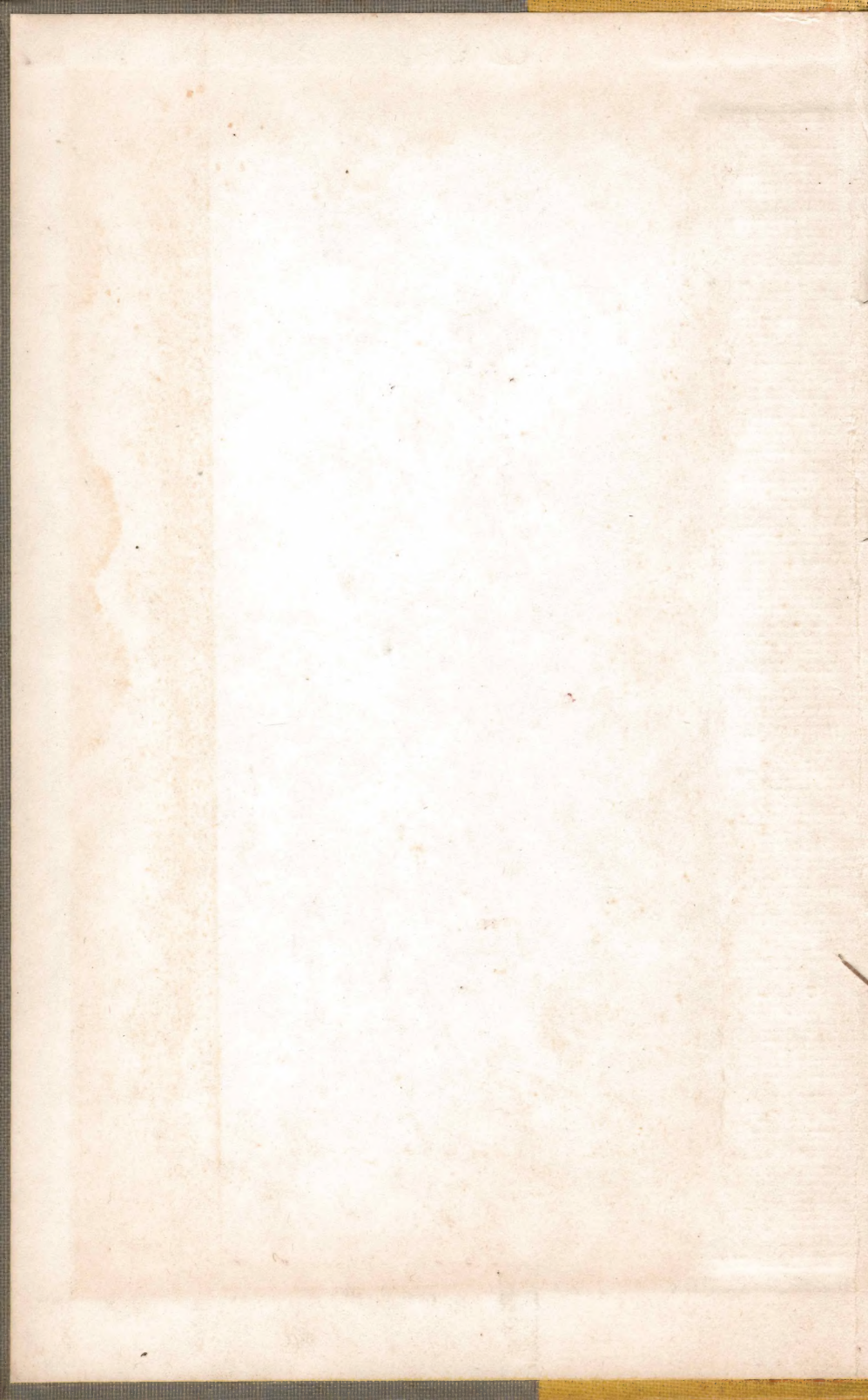
John Hay's observations emerge from a precise study of nature. The most discerning naturalist will enjoy his reflections on the great black-backed gull, tree crickets, terns, box turtles, lichens, spring peepers, and many others. Interwoven are human sketches—the death of a Cape Cod old-timer, a child's first discovery of nature, a shipwreck, a fire, and other stories that demonstrate the pervasive and profound relationship between man and nature.

NATURE'S YEAR is for everyone who is interested in a first-rate nature book, as well as for those who visit Cape Cod every year. Far from being regional in appeal, however, it will delight every reader who appreciates skillful, poetic writing.

JACKET DESIGN BY HERB MARCELIN

JACKET WOODCUT BY DAVID GROSE





Ed
Chas. Chamberlain

NATURE'S YEAR

Books by John Hay:

A PRIVATE HISTORY

THE RUN

NATURE'S YEAR



JOHN HAY

NATURE'S
YEAR

The Seasons of Cape Cod

ILLUSTRATED BY
DAVID GROSE

1961
Doubleday & Company, Inc.
Garden City, New York

Library of Congress Catalog Card Number 61-8166

Copyright © 1961 by John Hay

All Rights Reserved

Printed in the United States of America

First Edition

*For Kristi, Susan, Kitty, Rebecca, and Charles Mark—
with me on this journey through the year*

Contents

<i>July</i>	11
A Start on Cape Cod — An Entry — Other Lands within the "Narrow Land"	
<i>August</i>	25
A Wild Home Land — The Musicians — A Walk with an Oven Bird — Toward the Sea	
<i>September</i>	47
Youth on the Move — An Open Shore — Chipmunks	
<i>October</i>	61
Where Is Home? — The Field of Learning — Colors of the Season — The Last Day in October	
<i>November</i>	81
The Seed in the Season — The Clouds — The Inconstant Land — The Dead and the Living	
<i>December</i>	97
An Old Place, an Old Man — Night in the Afternoon — Two Encounters	

<i>January</i>	113
Exposure — Ice on the Ponds — Contrast and Response	
<i>February</i>	127
Secrets in the Open — The Sea in the Ground — Need — Death, Man Made	
<i>March</i>	143
Restless Days — An Extravagance — Interpretation — Response	
<i>April</i>	161
Deeper News — April Light — “Frightened Away”	
<i>May</i>	173
Declarations — Facets of Expression — Travel	
<i>June</i>	187
The Garden — Room to Spare — The Binding Rain	

July

A Start on Cape Cod

I drove to Cape Cod with travelers from everywhere. I came to this narrow peninsula over the blistering, insatiable roads of America with the summer crowd—in my shirt sleeves, with dark glasses to protect my sight—conscious of almost nothing but cars, and casualties . . . our migrations have them too, like the birds and fish.

I saw an accident so terrible I could not describe it. Machines were flung into the air and smashed. A life was tossed away, a human being crushed like a doll. Human relationships were pathetically severed by the brutality of chance. Then we were allowed to go on—travelers racing down the highway through the blood-boiling heat of the sun. We come in with speed and we go away with speed, and we are both afraid and desirous of it. The human run in its relentless self-absorption seems more abstracted than any other natural force.

The resident population of Cape Cod is some 80,000, and in July the number increases to an estimated 250,000 or more, a kind of barometric rise that is equivalent to what is happening in the earth at large. After Labor Day, when the summer tribe has gone back to the cities, relief comes. You can cross the road in comparative safety. Then, something like apathy pervades the Cape, as if its diminished society were trying to recover from an encounter with enormous odds.

Now I am off the road and back on the 110-foot hill where we put our house—part of a ridge that runs along the glacial moraine about a mile back from Cape Cod Bay. Dry Hill was its

local name, and in fact, driving a well, we found a constant source of water only at 130 feet. This evening the yellow light runs liquidly through the oak trees and the pitch pines around us. I can hear the voices of some of my travel companions lifting from the shore, calling, pleading, protesting. A snatch of radio music comes in. A plane drones overhead. The warm air seems to breathe hard, as if to compete with human breath.

I often wonder, when I am back on the Cape again, whether I chose the right place in which to live. It looks bare and scrubby, lean and poor, in comparison with those lands to the north and west of us which are far prouder in their trees. It has been burned over, cut down, and generally abused by man, and most of its healthy trees will never attain full growth because of the salt spray that the winds drive over them in many storms. And the sea, for all its surrounding presence, seems a mere backdrop a great deal of the time, a flatness along the horizon, but it is indomitably there. All the winds, the plants, the shores, the contours of this low land, are influenced by it, and because of it we are carried out into a distance in spite of ourselves. The sea mitigates our insularity.

Cape Cod reefs out into the Atlantic. I saw our house when it was new as a ship above the trees. I imagined a voyage. I recognize that although there are some true fishermen here who sail the year around, the rest of us are summer sailors, with no lasting allegiance or commitment to the dangers of salt water. Yet the Cape provides space for whoever might take the risk or pleasure of finding it. The sea and sky are very wide. The winds blow in from all quarters.

The yellow evening lowers now, through the young, shining leaves of the oak trees, creating new recesses of darkness. Tides of fire hang above the water. There are snatches of bird song through the woods: a robin; the silver pealing of a wood thrush; a towhee; a whippoorwill, starting in on its over-and-over-again, the loud repetitious whistling that makes the night known even as the day hangs on. And finally faint stirrings here and there, easings down, last faint pips and trills before the dark. I am conscious of the tenancy

of nature, in which there is more putting forth, more endurance, more population, in fact, than any visitor or local man might ever begin to realize. The great world we live in is no longer one for hide-outs. If this makes for intolerable pressure and despair, it also brings much more into view. Local recognition becomes a general need, and there are more possibilities in it than we have been told. While the human race has been approaching three billions in number, and making ready to put its mark on the moon or hang its hearing aids off Venus, I seem to have spent many years missing, or unwittingly avoiding, almost as many lives and chances close to home. How can I begin to compensate?

An Entry

I had decided to start this book in July, with the idea that this was the time embodying the full, crowded height of life—the noise, the color, the jostle of creatures in wonderful variety, just like that load of passengers getting off the boat at Provincetown to see the sights. The leaves are fresh. The motions of greed and fulfillment are in full course. Even so, I hardly knew what riches to snatch at first. In fact, another bold, heat-heavy day, with its crowds and its pride of accident, had the effect of making me recoil. I was muttering: “Slow down. Slow down. Why so thick and fast?”

On my way back from walking to the mailbox just now, I stepped off the road into the oak trees through which it runs, dropped the newspapers and the letters, watched and waited. I sat on the upper edge of a hollow where dappled shadows rocked lightly between the trees, on their gray trunks, and across the sloping ground. There was a pervading swish of leaves around me, an occasional stirring at the tree tops. I heard the slow, dragged caroling of a red-eyed vireo. Filtered light played on the low growth of sarsaparilla, hazelnut, huckleberry, and bracken, or dry land fern, with the brown floor of oak leaves in dead but useful attendance, holding moisture, shelter, and fruition in reserve.

The wood had a climate of its own, cooler, darker than the hot, damp, wide open world of road and shore. There are climates within climates, as there are worlds within worlds. Under the bark of a tree the beetle inhabits a place that has special atmospheric conditions differing from the woods outside it; and so it is with the

woodchuck in its hole, the ants in their hill. Any place, of whatever size, however endowed in our scheme of things with grandeur or insignificance, any home, may be greatly subtle in its variance.

A sweet, plaintive "pee-a-wee," and a wood peewee, a neat little bird, black, light gray, and white like a phoebe, but with white wing bars, flew in quickly and lightly, to perch on a gray limb. The bird would tuck its head down, and then move it from side to side, looking for flying insects, repeating its song every five seconds or so. Its tail, not bobbing like a phoebe's, twitched very slightly when its head moved. Then, in brief action, it fluttered out, caught an insect, and returned to its perch. These little flights covered most of the area around its tree, almost methodically. Once I heard the crack of its bill as it chased a fly almost down to the ground, halfway across the wood. It alighted on a new branch—to try out another base of action? But then another peewee flew in, perched, and sang at a far corner of the hollow, and the first one hurriedly flew back to its original perch as if it had been threatened and was making sure of its position. The wood seemed strung together by the intangible threads of their motion.

These were some of the ways by which a wood peewee follows its destiny, employing its chosen place, attending to minutiae, to duty and performance. This was appropriate use, measured necessity. And as the outer earth led to this part of the wood, and it in turn to the "micro-climates" within it, so the birds drew my attention to the insects. I had been bitten a little, just enough to remind me, in my enjoyment, that the place was not unnaturally hospitable; and there were unseen spider mites that would leave me some inflammations to remember them by. Now I searched the space above me, aware, through the flights of the peewee, of the flying life it pursued. Some flies hovered, rocking lightly in the air, and then swung abruptly to one side, or dropped away, buzzing insistently. Tiny midges, illumined by sunlight, waggled between the trees. Moths fluttered down briefly to touch the pale leaves they resembled.

So I had been filled, as I sat there, with a sense of employment.

I was part of a quiet, steady, structure of action. What better "security" could I find than that—learning, feeling, that a prodigious energy held all component parts in place and made them dance. In the neatness, discipline, almost detachment, of the bird's little game as it pursued its subsistence, I saw the working out of natural law in numberless parallels.

Perhaps there was a law to be learned for *me*. If nature is more than just a background for human thought and endeavor, then it requires a special commitment, a stepping down, a silent, respectful approach. Otherwise we are liable to hear ourselves first, and be put off.

I have been given an entry, but not on my own terms.



Other Lands within the "Narrow Land"

To answer the question "Where am I?" seems not to be an easy thing. "Obviously" this is the vacation land of Cape Cod where the sun sends the bathers to the beaches and the rain drives them back inland to buy souvenirs, where the harbors are crowded with pleasure craft and the highways with cars—an area whose purpose it is to attend to human distraction. Yet right in the middle of it the action of a small bird reveals a land of its own; and how many others are there still unmet?

It is very strange to me that I have known so little about what was around me, and that I took so long merely to make some inquiries . . . about a few names, a few alliances between living things, just enough to give me a hint or two about the growing we are never finished with. We live in a common realm about which we are still half ignorant and half afraid.

A little girl at the beach comes running through the shallow waters crying: "Something touched me, and it wasn't Daddy!"

Later on, her mother wonders aloud if crabs bite. She picks one up and when she gets her answer, screams with pain and anger at all the "unnatural" and the unknown.

Just the other side of us is not only a bewildering variety but a space, which we have still to find, filled with an unfamiliar silence, or random sounds, seemingly disconnected motions, sudden flights that we witness out of the corner of an eye. When we only assign the word "purpose" to ourselves, it is hard to understand just what credit to give that which only stands and waits, or moves from one place to another. I sit on the beach, moving

a little away from a portable radio that a man has brought to assure himself of his continuous hold on human affairs, and look out over the hazy surface of the water, past a long border of waves that lollop on the sand. There is a large bird standing on a rock not far offshore. I know it as a great black-backed gull, a scavenger, a predator, which sometimes eats the eggs and kills the young of other species of gulls whose nesting islands it shares, and robs other birds of their food . . . and that is about all I know, aside from having watched its splendid, easy flight. So it stands, and may stand, for an hour or more at a time, sea-surrounded, glaring out with expressionless yellow eyes. Is it digesting a heavy meal? Is it waiting for low tide so that its feeding grounds will be uncovered? Is it greedy, savage, lazy, and bold? All such questions are tentative. The subject is aloof.

Why is there so much hanging around and waiting, so much suspension in nature? It comes as an occasional surprise to us timekeepers. In the gull we suspect obliviousness, and yet it may be prompted by the demands of a space of water, light, air, stretching before and around it, in its being, of whose motion and sense we are scarcely aware.

We see very little. I am told that the very sands we sit on are full of minute organisms. The visible life, perhaps in the form of a few beach fleas, represents an extremely small percentage of the life unseen, a condition which has its parallel in the soil. But a short walk or wade along the shore can give you proof enough, without the need of a nip from a crab, that the tidal grounds are covered and circulating with life, a life which in its marine forms might seem small, simple, primitive, and unallied with much that we landed mammals can understand.

I cannot inquire much of the moon snail, blindly, slowly moving across the sands under the tidal waters, with its large foot feeling for a clam. It only reveals itself to me by outward acts and signs which do not seem to have much variety. A small hole, countersunk in a shell, is common proof that a moon snail has drilled in and then eaten the occupant. When you see a

"sand collar," which this animal forms of sand grains and eggs, you know another side of its existence. Perhaps that is all there is to it—eating and reproduction—the round shellfish mindlessly carrying out its destiny. If it says anything at all to me it is only out of undeciphered darkness, silence, and original need.

A tiny, shrimplike animal hovers in the water, then darts over my foot, only describing itself to me by its quick motion, and that is all I know of it. It suddenly buries itself in the sandy bottom, where reflected sunlight makes golden nets, that stretch and tremble through the constantly flowing waters.

The tide ebbs. The sun starts to evaporate the moisture from the top surface of a big rock, part of a jetty that thrusts out from the beach. I see a number of dark periwinkles around and under an algae-sheathed, water-soaked branch that lies there, a source of food for these browsers and vegetarians. They are a common marine snail, used for human food in many parts of the world, and usually so numerous and well known as to be taken for granted. As the water recedes and sinks below the surface of the jetty, the sun beats down, drying the rock. Some of the animals stay under the shade and moisture of the stick, but more begin to move slowly away from it. When these travelers finally reach the edge of the rock, they start down its shaded face. Their dark, whorled shells, though an intrinsic part of them, are hoisted, moved around, almost in a full circle, seeming to slip loosely over their bodies as they move down. Their black tentacles, like antennae on insects, wave slightly on their snouts, and their slimy foot works slowly down. Their motion is a curious combination of probing, oozing, gliding, and at the same time, holding on, assuring the grip, with a kind of portentous caution. Since I can easily tip one off with my finger, I also feel a tenuousness about them, in their relation to this realm of tidal power with its constant displacements—but adaptability is probably a better way to think of it. They have lasted, in their loose wandering, through a period of time which we can only estimate. They have a special authority. As I watch them it seems to me that no other action is of any more

pressing importance during this moment in the scheme of things.

These personifications of motion, these strangers, have untouched lands of their own.

That silent sea at my side is colossal, inscrutable, and holds out no solace or advice. We only have our toes in, on a tiny section of its summer shore. Most of us barely touch its surface. Even so, it offers as much to a traveling human as to a snail. It is still an old space unexplored, and if we leave the vacation sands and set out on an afternoon's sail, we may be following some need of wind and water in us, some unused acquaintance.

There is a well-known sand bar to steer by in the hazy distance across Cape Cod Bay. We buck the steely waves upwind, close hauled, half hot in the sun, half cold and shivering when the water thrashes in over the bow of the boat. Ropes creak slightly through the boom and the mast. The wake bubbles. Wood strains through water. The west wind blows stiff over conflicting waves. The time passes with a certain monotony but for the craft of sailors and its requirements. There is nothing called for but to sail, with no other distractions on this immediate flat world of light, no concern . . . and yet we sense some ultimate demand that comes from this blue giant, whose depths and tricks are still unfathomed.

The flat necessity of it makes sailing its own satisfaction. It becomes physical. We fly, we feel, we calculate, by sinew, flesh, and bones, and through the salty blood in our veins. We may be a degree closer to the black-backed gull.

There on arrival are great white sheets of sand curving up into a barrier of dunes back of a pebbly beach, where a beach buggy rolls along scaring up clouds and crowds of terns, and sanderlings in spinning flight. The jeep stops and teen-agers jump down and out, crying stridently. We anchor the boat just off the beach. The water is clear and cold. The dunes are sun reflectors, clean and warm, and we find whitish-gray grasshoppers on them, flecked like the sand.

Sailing back again in late afternoon, the boat goes fast and

free before the wind over the water now turned green, a blend of sky blue and the yellow of a falling sun. The bay lies out like an enormous garden, patched with color and motion, the salt waters full of latent power, ready with every kind of mood, flowing by and over, interwrought, crossing time and circumstance. We pass a clanging bell buoy. Evening comes on. Gold icicles on the water are turning and softening to shades of pink and purple. It is like striding over a wide land of peace and plenty, before we tack into the harbor.

August

A Wild Home Land

What I wanted to do was follow the year around, recognizing that hours, days, months, or years are as elusive as unseen atoms (even though, universal law being consistent, we deduce their behavior with some success). I am not sure where July left off and August began. Summer flies away from me, like an unknown bird.

Out into August then, while there is time. When I step into it as if into something new, I sense thousands and thousands of roving lives, taking their opportunities where and when they can. The day is hot and shining. The oak leaves, no longer fresh and young, but spotted with growths, chewed by insects, frayed and scarred, are still tough, deeply green, harnessing the sun, under a stir and slide of air. Two big red-tailed hawks sail high overhead, screaming constantly. A blue jay screams, in a fair likeness. The hawks wheel lower down along the trees, inside the horizon. Then two little tree sparrows flit by. Insects drone, stir, and buzz. There is a dragging, rattling sound of leaves as a box turtle moves slowly along. A cicada chorus rises like a sudden breeze from the southeast and then subsides. Two black and white warblers go through the cover of the woods in a quick butterfly flight together. The "Tock! Tock!" of a chipmunk sounds behind a brush pile, almost like the end notes of a whippoorwill's song.

I feel a balance in space between them all: the roamers, hawks, or gulls, in the sky's great allowance; the spider swinging on a thread and making its own web of a world; colorful, elusive warblers through the trees; the chipmunk on its chosen ground.

These sounds, synonymous with motion, seem to hold them in mutual alliance, round in a lightness of air that is strict and easy in its coming and release, like the cicadas; but there is an intensity here that makes my heart beat faster.

A jay jumps down to a branch, cocks its crested head, with those black eyes full of readiness, and brays. The spider wraps up a captured moth with rapid skill. A robber fly waits on a leaf with throbbing abdomen and a look of contained vitality. It is not to be known. I see the brown, glazed wings folded back in the sunlight, and two black, sky-light eyes on top of its head. It seems preternaturally lean. It stays there for ten minutes and I watch it closely, almost suspended with it in my attention. A robber fly is a tough predator, but to call it cold, indifferent to pain, careless of life, darkness personified? Our terms are useless. I do not know. Then my attention is cut, as it abruptly darts off, swinging in an arc, perhaps to catch a housefly a hundred feet away.

In the buzz, the running light, the stir of summer, I feel as if each motion, each event had its own pressing concern. This homeland, no longer graced with the name of wilderness, is full of wild, unparalleled desire.

Everyone knows that the month of August is loaded with insects, although they come under the heading of "bugs," a menace to human society. Their fibrous trills are incessant in the grass. Their high, shrill sounds announce the heated air. Those two species that we hate more than most, just for their familiarity, the flies and mosquitoes, drone around us. In the heat of noon our senses are a little clouded. We may be mumbling something about "the will of life be done," and it is being done . . . in great part by the insects. The summer rage to take and to share in taking is carried out in minute detail, from the tiniest mite in the soil to the dragonfly.

Manifest energy, using its short summer span, fills our surroundings with its wealth of insects. It has not been long since I was taught the modicum of knowledge needed to name a

few of them, to start in on a fraction of the 680,000 species that fill the earth; but it was enough to add to my sight. I had never realized that such foreign and incredible variety existed so close to me.

A yellow jacket tugs furiously at a dead cricket on the road, like a hungry dog with raw meat. Delicate aphids waver on flower stalks. A big striped cicada killer roams through the oaks. Other wasps sip juice or nibble carrion. Dragonflies dart across both land and water on their tangential licks of speed. The cabbage butterflies flutter and alight with pale, yellow wings held together like one thin sail against the sunlight. Over and under, in and out, flying, crawling, suspended in plants and in the growth of plants, seizing their time, waiting, indefinitely if need be, held in chrysalis or egg, emerging, feeding, adding to death and life in death . . . what are these strangers?

There are wasps as red as rubies; flies of a more scintillating, vibrant green than emeralds; and shiny bronze or golden beetles which are the envy of human art. If color is life, to make the human eyes ring and the body respond, they have it, and they also lack it. Some are so diaphanous as to belong only to the sunlit air, and some are so dark, as though part of unseen depths, that all color is only a dance, springing away.

We use up constant, frustrated energy keeping them in check. Their dry throbbing annoys us. They eat our crops, transmit disease, and drive us away from our pleasures: although in the bold stare of nature they are effective employees. We might, slapping a mosquito, recognize their necessity as pollinators, earth movers, or food, respect the role they play in decomposition and growth . . . then we must turn around and invent new poisons. Insects are redoubtable enemies. We are never quite sure which of us is in the ascendancy, just as we are never sure of what they are.

Still we can look and marvel at their complex detail: these wings like lace or spun glass; wings cut short and wide or thin as a hair; wings with the pattern of flowers, or veins of a leaf;

bodies round and narrow, oval or oblong; strange truncated abdomens; huge, compound eyes; legs impossibly thin and long, or unbelievable in number and still co-ordinated; heads like alligators; bodies like sticks; false eyes; false horns; repulsive, intangible, unreal.

Here seems to be automatic, nerve-end response in unreflecting zeros, whose lives pass with their deaths, but still, on this earth crust they are affiliated with everything. That which may frighten or startle a bird, like the eye spots on a moth's wing, is related to a bird. Animals are adapted to their environments and the medium in which they live and act; but so many tricks and curiosities are embodied in the insects, so many far-fetched connections of shape and motion, as to leave all particular environments behind.

In their variety they are in balance with our imagination. Don't they show as many bursts, tricks, starts, halts, and fires, as much somnolence and surprise in their color, shape, and action as we desire in the exercise of our consciousness? Nature is unbiased in its attention, concentrating equal power on all forms of its expression. When we begin to conceive of nature in terms of creative process—continually evolving, fantastically complex, immensely resourceful—then we recognize our counterparts wherever the sunlight strikes across the air. We share in a communication.

Last month I noticed a group of small butterflies on the mauve flower of a milkweed. They were, as I found out, hairstreak butterflies, with a dusky, grayish-lavender coloration, and little orange patches on the lower edge of their wings. When the wings are folded, their hind tips have tails resembling antennae, which may have the effect of a protective device to confuse a predator. After I frightened them off, they returned in a little while to rest on the very same flower. Their color was not the same as a milkweed's but in tone and value it was close enough so as to hide them from view at a fairly short distance. The flower and the animal were united in a sensitive embodiment of contrast.

A few days later I noticed that the flower was gradually paling. Then, on the twenty-fifth of July, the last blossoms dropped off, and the butterflies were gone. An obvious affinity, and a mystery at the same time, of two forms of life in a unique response to nature's web of motion.

It took me a long time to become aware of just how much these affiliations and responses made up the life of earth, how much of an elaboration they amounted to. In the past also, when I saw a robin hop across the lawn, a frog jump into the water, or a tree swallow glide through the air, I reacted with pleasure or disregard—by chance, in other words—without realizing just how big a role chance played in their appearance. In the same sense the obvious upheavals of a season—drought, or heavy rains—meant little to me beyond their immediate, local effect. After a while I began to be aware of all the circumstances that must surround me. One dull day I realized their unlimited context, and thought how slow and agonizing my own changes were in comparison.

Expected things happen. But the variations are just as compelling as the stable order from which they come. This June, for example, was cold and wet, and the rains continued into the summer months. The hatching of insects was delayed and the development of some plants and grasses. Many fledgling tree swallows were found dead in their nests, a disaster which seems to have been caused directly by the weather. Aquatic insects are a favorite food of the tree swallows, but in cold, wet weather these insects tend to remain in immature stages and do not develop into flying adults. (Swallows chase after their food in flight.) And, in fact, when insects are few, the tree swallows seem to be discouraged from looking for them. If such conditions keep up, they may leave a nesting area to look for food elsewhere.

Our local run of alewives, those inland herring that migrate from salt water every spring to spawn in fresh-water ponds, seemed to be a little later than usual; and the young, hatched from the eggs they left behind them, started down to salt water past

schedule in July. If the ponds are colder in temperature than is normal, it probably affects the young alewives' size and chance of survival. They grow larger and healthier in warm-water ponds because they are started sooner and have a richer supply of food. A smaller, slightly weaker fish is more easily caught by a predator.

Because this spring was somewhat off the average mark (and in a sense there is no average), many of the relationships between plants and animals dependent on it were altered. Some of the effects, in animal population or health, might be felt for a long time to come.

Although ice, fire, storms, hurricanes, unusually wet or dry seasons, and now the hand of man, may alter the local earth almost beyond recognition and bring its inhabitants to disaster, natural occurrence has an indomitable will. Its changes outlast all others. Uncounted lives are sent ahead, balanced always, but with relationships through time and space that are never exactly the same. A leaf drops earlier. Frogs start to shed their skins, or migrate locally at a time that depends on new climactic conditions. Why have I seen so few mole runs this year? Last year there were comparatively few baltimore orioles. This year in orange pride they were leaf calling and diving everywhere. I have seen very few phoebes in our vicinity of late, and scarcely any bluebirds. There may be more mosquitoes this summer and fewer grasshoppers than usual. I can inquire, for each species, and find out what I want to know, if there is logic, and cause and effect to its behavior; but all are related in a realm that is wider than I ever imagined.

The Musicians

Many Augusts, singing loud, have passed me by without my giving them a shred of attention. What made the sound? The air, or the trees, the month itself, embodied in unknown voices? I don't think I knew much more than that, although I suppose I was aware of what a cricket sounded like. Perhaps it is time to find out more. I know now, as I did then, that at night when the air is soft and cool, a multitude of separate actions having died down, and when the earth is relieved of a fire taken to the stars, a plainsong goes up and the night takes substance in pulsing sound.

When I listen, I see that in detail the sounding of an August night is not melodious. It is full of clicks, dry rasps, ratchets, reedy, resinous scrapings, and except for countless populations playing on one string, disassociated. There is only one phrase for each species of insect. The over-all sound is occasionally reminiscent of telegraph wires, mechanically shrill and tense; but in the context of the night, speckled with stars, it becomes as wide, warm, and luminous as any symphony.

Having heard of using a flashlight to search for these musicians, I go out, sometime after eight-thirty, and start training it on sounds, with complete lack of success at first. Either the sound stops, or the animal that makes it is invisible to me. A bat flies overhead, chasing insects. It is known for accuracy, having ears with a receptiveness like radar, tuned to the finest measurements of space, but its flight seems frantic. It beats back and forth, around, over and under. Suddenly it is very close, perhaps

a few inches over my head. I duck at the leathery, fluttering sound, something like the rippling folds of a taut chute, despite my knowing that only in lingering myth and hearsay do bats catch in human hair. Then it is off again, with its violent, erratic flight.

The darkness takes deeper hold. It is full of the loud throbbing, the insistently high-pitched rasping of the insects, with an occasional tree frog sounding a contrapuntal "Ek-ek." Playing my flashlight under the trees shows up a spider web in beautiful detail. The silk strands are clear against the black night, their swoops and whorls all held together by long perfected execution, with the tiny engineer way up on his round span, his semblance of the globe in its vast waters.

In high suspension, in the larger silences of the sky, all rings well in consonance, and the pulse of living instruments is with the massed stars that run out and dive away above all heads, and with the ground, my heart and ear, my blood and bone.

A persistent light racheting makes me concentrate on one bush, where I eventually find a green, well-camouflaged, long-horned grasshopper with orange eyes—a male, since it has no ovipositor on its abdomen. The females are silent, with the honored role of being courted and invited.

The flashlight seems to have no effect on him. The front wings are slightly apart, raised up a little, and vibrating . . . a kind of fast, dry shuddering. The sound is a light "zzz," ending with a rapid "tic-tic-tic." This grasshopper is a waxy green. His antennae, almost twice as long as his body, go up in sweeping curves, and wave, sometimes both together in a semicircle, sometimes singly in both directions, as he stops his playing, and begins to move slightly down a twig. Then I notice a female moving in his direction. Had he increased the tempo of his playing when she came near? Did he sense success?

Still harder to spot—almost impossible by day, and difficult enough at night—are the snowy tree crickets, but they are numer-

ous in this low-treed, shrubby area. Where the long-horned grasshoppers sound at intervals, the combined chorus of snowy tree crickets pulses on. They are slender little creatures, a very pale, almost immaterial, green, but their fragile, transparent, membranous wings, raised higher than those of a long-horned when it plays, make a cry that rises up like peepers in the spring. This is the famous "temperature cricket" whose song speeds up or slows down in response to heat or cold. According to the field manuals, you can divide the number of notes per minute by four and then add forty, which will give you the approximate temperature in degrees Fahrenheit.

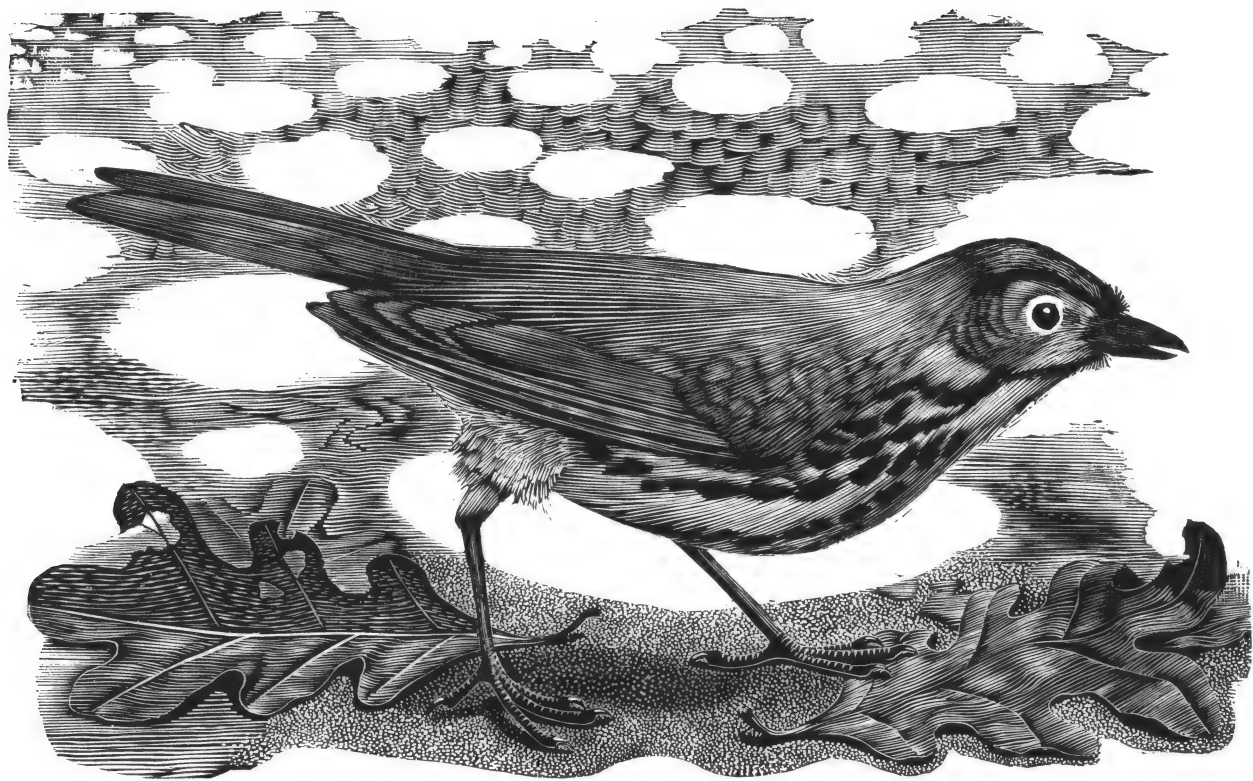
So this great scraping and fiddling perpetuates a dance. The first frost will end the lives of most of these musicians. August's high sounding means a coming end, but all of its connections and associations join in sending on the year. This is what the month means, as well as the hum of tourists driving down the Cape and back again. Listen to the chosen string.

There is a miraculous sensitivity in the cricket that slows down when the temperature begins to cool at night, or even when a cloud passes over the sun by day. The male calls to attract the female, though it is apparently not known whether her arrival may not be the result of happenstance. His playing is as much a part of general expression as individual intention or reaction. In any case the eggs are laid, which will stay dormant throughout the winter, to hatch in the spring. The organic cycle continues, making an announcement, sending up a music whose players are so attuned to light and dark, sunlit or clouded skies, warm air or cold, day or night, that their existence depends upon the slightest change.

A Walk with an Oven Bird

The broader aspects of the weather are more apparent to my kind of receptiveness, which is less mortally tuned to degrees than a grasshopper. There is still an abnormal amount of rain as the month goes on. Their sun blotted out, many tourists have left the Cape earlier than usual. I notice that the days are shorter and cooler. The prevailing wind, southwest in fair weather, southeast before a storm, blows gently, or in gusts when it rains. A big mud puddle on our wood road has collected a whole population of green frogs. At night there is great frog carnage on the wet highways. I have noticed in the past that this is their season for traveling, whether it is wet or dry, but heavy rains encourage their migration, sending them far and wide. There is a multitude of garden toads around the house. One night it cools down to about 50 degrees and in the dawn hour the leaves are bluish gray with dew. A hurricane, spawned in the Bahamas, is two hundred miles east of Florida, but beginning to turn slightly to the north, away from the eastern seaboard. High seas are predicted in three or four days' time.

I feel as though we were hesitating on the brink of new necessities, swinging between one resolution and another not yet found. The season is beginning to join the winds. Some migrant birds have already flown away. Other birds fly through the leaf canopy feeding seriously and silently. A warbler, a female yellow-throat, skips lightly along a patch of briar and vines. A brilliant oriole jumps into a patch of oaks and moves on down sunlight-yellow ramps of leaves, and a black-billed cuckoo, a large brown



bird with a handsome, long tail, stops in on a branch with a look of eagerness and seeking, then flashes off again. There is a change in their action and timing. The adults are long since through with the claiming and proclaiming that rang in the woods before they nested. The steady, constant business of feeding their young is about over for most species, though I see a flicker, or yellowhammer, come through the trees in diving, shooting flight, with a young one following loudly after it. There are many fledglings, but on the whole the birds, many of them starting to molt, are silent compared with spring and early summer.

This wood road of ours, where the birds fly through, is used every school-day morning by our children on their way to catch the bus. It is a kind of open line through change. It rides the side of a low ridge, and glacial hollows dip away from it. It once served as a wagon road for woodcutters, and is still shaded by the insistent, if none too "sturdy," oaks, which come back again and again, no matter how many times they are cut. They make the road a green tunnel in summer, and their gray branches with knotted fingers rattle and sway above it in the wintertime. It receives many travelers by land and some by sea. (A few Januaries ago I found a dovekie there, a little sea bird with the black back, short black wings, and white breast of a penguin. It is one of the members of the auk family, breeding in Greenland and migrating down from the ice-locked waters of the Arctic Circle to feed in the Atlantic during the winter. Its short wings are meant for swimming, diving, and flying in and out of waves, so they are not very effective when blown inland by a storm. The dovekie I found was unable to take off, and in any case weak and hungry. So after a futile effort to feed it, I took it back to Cape Cod Bay, where it started to fly along the surface of the water, though weakly, in short, floundering dashes.)

With a half mile of concentrated road it is easier to take cognizance of friends and strangers than when you are trying to make California on the transcontinental highway. You can see how it is used by skunk, squirrel, deer, and the hunters of deer.

I walk it in expectation. One of the animals that constantly move across the road and live in the woods beside it is that bird which looks like a tiny thrush but is classified as a wood warbler, the oven bird. Its "Teacher! Teacher!" rings out in spring and early summer. It was named after its leaf-hidden nest, made on the ground, with a hole going in at the side like a Dutch oven.

Here is an oven bird, tail bobbing slightly, perched on the lower branches of a red maple beside the road . . . a little more out in the open than usual, less concentrated on its earlier nesting territory. It flutters down to the road. This is one of those birds that have the distinction, if that is what it is, of being able to walk, rather than hop or run. So it starts walking, through the dappled shadows on the road, as I keep a respectable distance behind it. Or perhaps I walk and it attends to business. The oven bird goes back and forth, pecking insects, with a quick meandering, interrupted by an occasional little jump at the leaves of an overhanging shrub or plant. This is not a straight walker, no Indian with a destination, but its body moves constantly from left to right in purposeful flexibility.

"How well you see!" I think to myself. I can see nothing at my level but a tiny yellow caterpillar swinging through the air on a silken thread. But it is clear to me that the oven bird works the road with clear results. We keep going. We come to a stretch in full sunlight where the trees stand off to the side, and my companion keeps to the shadows with determination, pecking away at insects along the few inches of shaded bank to one side. A flicker bursts through, shouting: "Tawicka! Tawicka!" and the oven bird flies ahead a few feet and then goes on walking.

We have now traveled about an eighth of a mile. Under a heavy weave of leaves the bird moves to left and right over the road, pecking for insects, working, progressing. Olive brown; capped with an orange stripe; with speckled breast and pale pink legs . . . a shadow bird, a leaf litter bird; and now a fellow walker, that has made more use of this road than any of us

and our omnivorous machines. At a sharp bend in the road where it leads up to the house, the oven bird finally flies off and disappears in the trees, in a southerly direction by coincidence. Our walk is over, but the flight of birds will leave all cars behind.

Toward the Sea

There is "man" and there is "nature." But do we really know where the climate of existence starts, where its storms are brewed? All weather is unexpected. Another variation in the known routine, another change in use, and we may move, reluctantly, into some new awareness while primal energy bowls on with infinite capacity.

Among the oaks the leaves on the top branches sway and rustle, while those on the wood floor scarcely lift at all, but there is a constant sound of air among them, and it might be possible to hear a ferment in the ground. Small suns blaze through round leaf lobes. Standing on a slope toward the north from which the glaciers came, and the auroras crackle, shimmer, and flow, and the cold from Canada will have its way, I have a feeling of portentous motion, of being sledded out on a speeding globe.

The hurricane veered off. There was rain, but no great winds. The mud puddle in the road dried up after several sunny days, and the green frogs left; but when it filled up again they had not returned. The frogs have a different motion in them and will not come back to suit my metronome.

Many vacationers are going home. We can almost walk across the highway without fear. There is still the press, the fevered demands of summer in the air, but something else is going to have its way.

A changing light, a shifting wind, calls me out to meet more of this earth than I know. Habit stifles me. My round needs to be recharged. So I take a walk, like the oven bird, though not to gather

any more food than my senses and my spirit need. There is a lobe of land a mile away, through the oaks, over the shore road, and across to sea level, called the Crow Pasture. It is bordered by a tidal inlet and marsh on one side and the sands of Cape Cod Bay on the other. It is covered with low, wind-topped growth, blueberry bushes, beach plums, stands of pitch pine, and stunted oak; and it is flushed with moving light and shadow, hovered over and hunted by great clouds. The Crow Pasture is without houses so far, and it is a bare recipient of high events, the range of storms, the distances that come in and declare themselves by wind or flight, the summer vaunting of the sun, the cold appeal of the moon. Narrow, rutted dirt roads lead into it and take you on.

This land, once used for pasturing cows, now domesticated only by sparrows, robins, and chickadees, has final summer abundance in it. Locusts bound from dry land grasses with rattling wings. Green head flies buzz in savage haste. A yellow and black goldfinch flies over, bouncing along.

There are ebony-beaded blackberries on the ground, and a few dark berries left on high bush blueberries. A stiff wind from the south shakes up the thickets and the wild indigo, a compact, light bouquet of a plant with cloverlike leaves and yellow pea flowers. Pointed cedars stir and writhe. The air rushes through the bayberries with their glossy leaves, and it sweeps down across the marshland ahead through purple and yellow grasses that plume and sway, off to the white sands beyond.

Open land, wild air, lead ahead until salt water appears, the blue barrens that curve beyond sight. Stiff, stunted bushes are backed up at the edge of the marsh, hideaways for sparrows, then marsh rosemary, or sea lavender, shows in occasional clumps through the eddying stalks of grass. One area is thick with mosquitoes, sounding a low melody of harassment. In the bed of a ditch, dotted with holes made by fiddler crabs, are the tracks of a skunk. All that lives here permanently, not foraging like a skunk, or migratory like most of the birds, has to stand strong light, harsh winds, and salt spray, that dry, abrase, and burn.

The marsh merges with the sand, back of low dunes covered with stiff, sharp-tipped beach grass and seaside goldenrod, thick stalked, with broad soft leaves, a succulent, related to cacti, made to hold and retain moisture. The beach shelves down from the dunes and meets the exposed tidal ground, ledges of dark peat which is pitted like volcanic rock, and very slippery to walk on. Beyond it at low tide the sand flats ease out, stretch and flow, with aisles and purple fingers of water rippling, writhing, and probing across them.

Further along the shore a group of gray and white herring gulls stand into the wind. Hiding in a clump of peat-rooted grasses a few hundred feet from them is a gull in its first year. One of its wings is broken, with the primary feathers dragging on the ground. The bird stalks slowly along, tripping a little, isolated, a picture of shame and loss. When I approach, it moves reluctantly toward the other gulls, then stands into the wind slightly behind and to the side of them. Suddenly the flock takes to the air, and the young gull stays down, crippled, unable to forage for its food, and ultimately doomed. There are various kinds of mutual assistance in nature. Some species, like Canada geese, may help, or try to help a fallen mate; but there are no hospitals. I am told that a sick bee rolls out of a hive if it can, or is pushed out by the others. Animals must be deeply aware of death, and they die alone, perhaps with an instinctive understanding that they have to pay the price of a health which nature ultimately requires.

The landscape slopes on and out from life to life, swept by the air, an earth, sand, water, run of interchanging light. Clouds of white terns are hovering and diving over the waters of the bay. Suddenly a dark-plumaged marsh hawk flies into the midst of them. They harry it in the blue, heat-clouded sky. The hawk circles, dodges, flaps on, while they dive on it continually. It twists and rises higher and higher trying to shake them off, until it plummets down and flies low over the surface of the water, making a great round turn back to the shore.

The crippled gull stands and waits with hurt patience. The

hawk flies back to the marsh behind the beach and begins to beat slowly over it, covering the ground methodically, hunting the unwary shrew, mouse, or sparrow. The terns dive for fish. The tide waters begin to slip in over the sand. Measure for measure. Necessity keeps its component parts in order, as the light changes, and the south wind keeps blowing.

Down the shore to the east is an inlet called Paine's Creek, which receives the inland migration of alewives in the spring, and takes out their young, hatched in early spring and summer, as they swim to salt water. The alewife fry, two or three inches long, attract gulls and terns. During the month there has been a migratory colony of terns in the vicinity, principally common terns, both adult and immature.

In the general Cape Cod area there are two principal nesting places every year, at Tern Island, Chatham, and in Plymouth. During the season—the birds arrive about the end of April—both terneries have populations which number in the thousands. There are in addition a few small islands off the Cape and a few comparatively isolated areas where smaller groups nest successfully, although terns are sociable birds, and breed best in large numbers. In August, beginning with the arctic tern, which, I am told, is the earliest to migrate, the birds begin to leave their nesting sites in groups or small companies on their way south. They spend the winter anywhere from Florida to the edge of the Antarctic ice.

So the Paine's Creek area, with its sand eels and alewife fry, represents a way station, a stopping-off place, one leg of a migratory journey . . . the first for birds hatched during the late spring or early summer. Terns reach flying age in a month, but their parents go on feeding them for some time. They are slow to mature and do not breed until they are about three years old.

The young are not much smaller than their parents, and without a close watch it might be hard to tell the difference at first; but their heads are gray, as compared with the jet-black napes and crowns on the adults. They still spend most of the time waiting to

be fed. Some make inexperienced, practice flights over the water, plunging in and out in an almost kittenish, hit-or-miss way, while their parents dive like arrows, pinpointing the surface with little flashes of spray, from which they rise up with silver quarries in their sharp bills. But as many more of the young terns stand along the beach or on shoals at the mouth of the inlet, crying, begging to be fed.

Terns are intensely active and brilliant in performance. They are comparatively small birds, but they are capable of migrating over thousands of miles of ocean waters, and their long, angled wings beat deep, low, and strong. They are all black and white sharpness, flashing as bright as the gold circlets of water around sharp grasses at the mouth of the inlet. They swing. They dart. They winnow the air. Their lovely white shuttlecock tails spread out and settle as they turn against the wind, crying: "Kierr! Kierr!"

Two juveniles wait on a shoal, constantly calling in a high-pitched tremolo, intensified when a parent bird flies over them. The trim expert adult flies past, then swings back down the shore and circles back, finally coming in to land between them. It has no food in its bill, but stands there for a minute or so, and then begins to move away from them, as they crouch and strut after it in an almost elderly way, crying their protests. It signals departure with a slight lift of its wings and in a few seconds flies up, the thwarted young ones taking off behind it.

In this behavior I see the play of learning, the many repetitions that precede a balanced natural art. Other adults swing in with sand eels or fish in their bills and hover, or circle back, avoiding rivals, then drop down next to a twittering, beak-gaping child, giving it the whole fish, or holding on to it and flying away, which has the effect of teasing the young one to follow after. In this way the fledgling terns, some still crouching down in a submissive manner as they did in their nests, learn to fly up, to chase, dive, and dodge, to breast the air, and beat their wings for all the long voyages their lives may hold.

In a few weeks most of them will suddenly flock away and migrate. In the meantime they practice the instinctive measures of growth, training in the insistent, excitable ways of a tern, for air and open waters over half the earth.

September

Youth on the Move

The tourists and the summer residents begin to leave the Cape. This is a visible exodus, with many more cars going out than coming in. The people in charge of commerce count our summer gains and our losses. Those of us who are year-round residents can admit it in public, now that the representatives of the humming, spreading urban world have departed. Here now is a half-populated place, temporarily, perhaps shamefully, consigned to a dull future. And yet, according to the practice I have begun to learn by years of residence, I can now look around, with room to spare. What fills this emptiness? What will I see when I take off my dark glasses?

I notice, by the way, that some of us are now predicting the local future with more assurance. I hear a real Cape Codder (meaning someone born here, preferably before 1900) pronouncing that there will be a frost around the sixteenth, and that "We'll have a blow pretty soon."

The night heaves with heat. A half-clouded, half-misted sky shows occasional stars. Then an onshore wind begins to blow and the land stirs and frets in the darkness. I feel that new revolutions are in order, earth-honored, momentous changes.

In the morning the weather vane stands to the north. The sea is kicked up, the trees are swaying, and the temperature has dropped into the fifties. A new wind is getting in its licks, rolling and lunging against us. The air above the sea meets the great air masses from the land. Warm and cold, water and air, west and south, north and east, join in a game of strength. The whole day

is a trial for the future, with the running clouds as its pawns. A child asks her father: "Can the day blow away?"

When the wind dies down and the clouds clear off, the air has changed from a hazy warmth to clarity. The sea turns dark blue, groined with white caps. The land seems strict and clean, lifted into pure new skies and a new silence, although at night the musical pulsing of the snowy tree crickets is still as shrill and loud as spring peepers.

This is a marginal season like the spring. It is full of new appearances, as well as late fruitions. The goldenrod, strong flower of the sun, still plumes its store of light, and represents me well in my country, in spite of congressional inclination to award some puffy, manufactured rose with the title of national flower.

Asters, lilac and white, grow abundantly in the sandy soil. Their little pin wheel flowers are as crisp and clean as the new dresses of the girls when they go off for the first day of school. The novelty, after the closed-in summer tempo, is an outwardness. There are many immature birds that appear suddenly in various untried places, and not necessarily because of the demands of a set migration. Because of these fledglings the various bird populations have so increased that they are pushed into looking for food beyond their nesting areas.

Immature hermit thrushes appear as if at random, and many robins and towhees. The towhee, once called red-eyed, a name that seems to have been changed to rufous-sided, is a handsome black, white, and terra-cotta bird which likes scrubby areas, thickets, and open woods. So we see it frequently. It has a black and white tail with which it puts on a spectacular performance, flicking and flashing its feathers like a gambler with a deck of cards; and it floats over the brush and across the ground with its tail spread wide behind it.

Now the young towhees call "Twee! Twee!" not quite at adult strength and clarity, but they are finding themselves. They are on the move.

A covey of young quail suddenly starts across the road, coming

out of a field still loud with insects. Heads and necks up, they run almost trippingly forward with sweet, piping alarm.

A young red-tailed hawk is brought into school by a boy whose father found it trapped in his chicken yard and killed it ignominiously with a baseball bat. Red tails are big beauties with a thick supply of feathers. Their backs are brown, their white bellies flecked with brown. The usual place to find them is high up, wheeling around the sky on a watch for rodents; and occasionally they fly out of pitch pine woods where they roost. The dead one has lost its piercing cry and the electric glare in its eyes, but its talons still look formidable. They are black, and as sharp-tipped, as wildly curved, as hooks of steel, joined in power and flexibility.

Bright days warm the surface of the inland ponds that have their outlet in the waters of our local brook and estuary leading through marshes to Cape Cod Bay. The sun's radiance hurries up the alewife fry in their ancient impulse to go down to salt water, from which they will return in three or four years' time to spawn like their elders, usually in the same fresh-water system where they were hatched. These little silver fish, with an unfathomed stare in their big eyes, run out on an ebb tide from Paine's Creek. They attract gulls and terns, which hover in crowds against the west wind.

The plumage of the young terns still in the area now shows a more definite contrast between black and white. They have become more adept at flight. Many are still being fed . . . almost continuously during those hours of shallow water when fish are easier to catch, so that the passivity of those still waiting on the sands looks like a consequence of being overstuffed. I get the impression that less food is being proffered by the parent birds, but they have certainly not relinquished their responsibility. They bring in small fish and their large children gulp them down and wait for more. Other young birds are now flying readily—chasing after their parents, beseeching attention, but more often trying to fish for themselves. Little by little, by rewards and refusal, failure and success, they are progressing toward the perfected action of

mature birds. They are becoming more aggressive, fighting for space over a crowded channel, or protecting their catch. The adults, whose success in fishing they are beginning to approximate, hover over the water, beaks pointing down, then dive suddenly, wings partly folded back. They hit the water like small stones, then come up again, flying away fast if they have a fish in their bills, chased by other birds that cry "Karr! Karr!" with a slightly growling note. It is not so much that the young terns are taught, in our sense of the word, as that they become more and more a part of the communicable rhythm of the whole race of terns. Their circling, diving, hovering, or racing downwind are common proficiencies of motion, that fit the great environment of air and sea. Growing up is rhythmic practice. There is not such a gap between tutelage and its recipients as there might seem to be among human beings.

Terns seem involved in a ritualistic performance throughout their lives. Much of the behavior they show in getting food as nestlings and fledgling birds has its parallels in adulthood. There is the "fish flight," for example, which has its origins in the begging, receiving, and then hunting food of a growing bird. (A fish is a master image, a center of recognition and attachment, with all the formality of action it entails.)

The fish flight is a term which in its strict sense is applied to the behavior of birds during pre-courtship. It involves emotional display between pairs of birds, as distinct from their food-getting habits in general. In detail it includes differences in calls, in the relative positions of birds during flight, and in the way they carry a fish. A fish in the bill not only represents the fulfillment of need. It may also be an offering, a display, and perhaps the instrument for a mutual awareness between male and female, even before sex recognition occurs. But if the fish flight can be tied down to behavior at a particular stage in their lives, the terns also show similar reactions before and after it. Mated birds go on offering fish as they fly by one another, or begging, so that feeding is used to maintain a bond between them. And of course the fish is the

basis of all the instinctive training of the young. The process of begging and receiving, or offering for the uses of recognition, continues on in many forms through their life stages. They pursue a formality. Their flights show the grace in action of a whole society.

At half tide, when the water recedes over the sand flats, the terns flock there, preening and bathing in the tidal pools. Occasionally one will lift its wings up beautifully into the wind, receiving the wash of air. Some fly back to the inlet and drink the brackish water. The community seems to gather more and more closely together as time goes on. They all begin to roost densely in one area. At times they take to the air, as if alarmed. They rise and circle, crowds of white, crying shrilly, and then fly down again. Or they spin like a larger flock of sandpipers, a white cloud dancing with dizzy perfection over some fish weirs in the distance. Perhaps it could be called communal practice for the next journey. In their rhythms they are self-sustained, self-protective, like schools of fish, but at the same time bound out, under the laws of the wild air. One day soon I will go down to watch again, finding that most of them have flown away.

An Open Shore

We stay where we are, while the young migrant birds and the men of the city leave us. But the days sharpen and change. The nights grow longer and cooler. The westerly winds increase. There is a brilliance in the air, and the sea makes a clean statement to our senses. "Adjust your vision," the sky seems to say, "to a turn in height and depth and in a new area of relentless winds."

Those migratory birds that are still with us feed actively, fly with restless energy, and collect in flocks. In many undisturbed areas, down by the barrier beaches and through the salt marshes, treeless, open to the sun, you can see a great number using their special physical advantages to feed or fly, hide or attack, in the patterns of environment.

The U. S. Wildlife Refuge at Monomoy is on a long spit of barrier beach and marsh extending south from the town of Chatham ten miles into Nantucket Sound. It is wild, unadorned with tourist cabins, and so an undisturbed refuge and resting place for migratory birds. At first you find warblers, gnat-catchers, orioles, vireos, and other land birds, working silently through low oaks, pines, and stunted, salt-sprayed shrubbery. Then the marshland sweeps ahead with open ground, and curving inlets behind a long beach where the surf pounds endlessly, the sands inlaid with the debris of the sea—whelks, surf clams, or scallops. Back in the marsh where mud snails stream slowly ahead in a long procession, the shore birds race in, or turn quickly in a shimmering flock, or settle among the hummocks, and along sandy rims.

Dowitchers stolidly probe the mud with their long bills. That

mottled, distinctive bird, the ruddy turnstone, pushes, or turns over, pebbles and stones—thus proving its name—as it searches for the worms and crustaceans underneath. Shy piping plovers, white as oyster shells, stand by themselves behind a dune. Sanderlings hurry back and forth with little twinkling legs. The yellowlegs fly up and over with short, piercing cries, their wings curved like sickles. Or a solitary marbled godwit flies by, handsomely patterned on its wings with black and white. Least sandpipers, tiny animals with greenish legs, hurry and flit along, feeding at the edge of the tide pools and the rim of inlets.

The terns—common, roseate, least—fly at a point where the tide comes in through an opening in the beach. Sharp-cut divers, they swoop low, dipping into the water again and again. A few ring-billed gulls move among the shore birds. They are a little like a small herring gull, but their heads are more rounded, like pigeons. They have a lighter flight, and a softer look than their raucous, flat-headed relatives. And over the ridge of the beach, against up-dune horizons, is a long belt of great black-backed gulls, large, proud, and with a look of supreme idleness and cruelty.

Here is "function" in all variety, each life to its place, filling a niche, with the special form and manner by which it feeds and tries to survive. And every bird is a bird of the sun, adapted to this treeless, narrow shore that blazes with cutting light, the light of sand, or rock turned to sand, of water, roaring and moaning in the sea, rushing back through a tidal cut on the ebb, then trickling, evaporating, and swelling in again at the flood. Each animal works an open coast, across its burning days. The fliers with wings so sharp, energies of light, fit the high or low wants of the wind, the curves and sweeps of the open marsh, the glaring sands. And they hurry on stilts, or tiny short legs. They bob up and down. They run trippingly along—all to the rhythm of the watered, indefinite shore, looking for food that is rhythmic in myriad ways. Here is a great tribe of searchers.

The human race, as it climbs laughingly into motor boats and roars down an inlet, or sits soberly baiting fish hooks in a row

boat, or basks in the sun, is no less brought in, fitted to this region—for all our autonomous great world of threats and shelters. There is some compelling call, that springs its lives ahead, and will not be talked away. Even the large, extraneous footmarks of seventy male and female “birders”—a very special tribe—are evidence of an omnivorousness, a searching, communicating, flocking together, from which no animals are entirely exempt.

Chipmunks

As some of the inhabitants of sea and shore move on to the south, inland life adjusts itself to local climate. The leaves on the trees are still green, but the bracken, or dry land fern, has turned brown, one of the early signs of autumn. My surroundings are full of statements of this kind, an end result of preparation. I notice one of them. I stop—pleased to be told—and then I wonder what was silently going on in August to have placed us with such definition in September. Plants and animals move into a new light, a new scene, when I am merely groping with their names. Perhaps because I have read too many newspapers, I am limited to what we call events. I see some outward evidence, and am obliged to go backward in order to reconstruct what might have been, when the real show is already over.

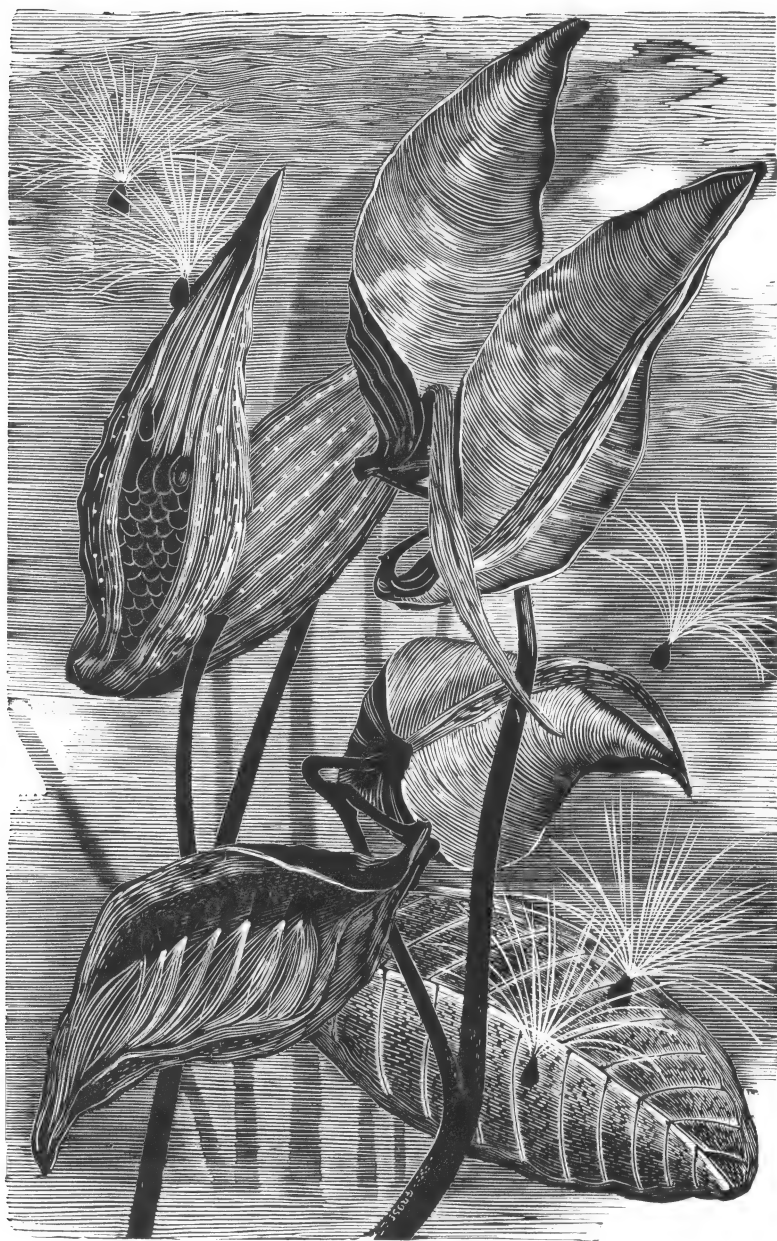
So all September's reassociations and revolutions may just end up for me as a clump of locust leaves tugged loose by the wind, or the sudden opening in a milkweed pod, or a new chill in the air. One day I notice that a milkweed pod—on the same plant where I saw the butterflies—erect like a lamp on its bent stem, has developed a dimpled line down the middle. The next day it has cracked apart, and there in the sheath are the compact seeds, overlapping like fish scales, making a kind of cone with a tail of soft silk made up of myriads of threads. They are moist at first, in their womb, then they dry out and each seed parachutes away, the silky rays darting, swirling, racing high, subject to every turn and twist of air. There will be new populations, out of old circumstances. What happened to the milkweed before this culmina-

tion? How many hairstreak and monarch butterflies paid it a visit? How did it change with change in temperature and moisture and length of days? Where did it come from originally? Next year, if I have not been sent ahead myself, I will stand watch over the plant so as not to miss what might be the greatest show on earth.

We depend on all too occasional visits to understand other modes and rhythms of existence with any depth, although there are times when a chance sight goes deep enough to last. This season of the year the chipmunks are very active, foraging for grains and nuts to store in their hibernation chambers underground. Cats, of which there are far too many loose on the Cape, kill so many chipmunks that it is sometimes hard to see how the population keeps up. (For one thing, these little "ground squirrels" only seem to have one brood a year.) Cats bring them home almost daily, teased into a terrible dance, spinning around like weary boxers on a revolving stage. A chipmunk's alert curiosity, or habit of freezing into attention, may well be its most vulnerable point. Cats will get them when they are out in the open filling their cheeks with food. They will also come out of the shelter of a hole, or stone wall, to investigate the source of some unusual noise or light tapping, or a whistle, or just stay fixed when a man approaches, in a kind of actively questioning mood.

I hear a scattered dashing in the leaves, and there it is—a striped, bright-looking little animal, tail twitching, arrested in motion, quivering and throbbing, its throat pulsing at a furious rate. We watch each other for three or four minutes. I too have my share of curiosity. Gradually its quick pulsing dies down. It turns its head slightly away, with those moist, black, intent little eyes. With a quick flip it is around a tree, then drops down to run along the leaves again and jump behind a boulder.

It was in no mortal danger that time, but our two lives were brought together into relationship by another danger—the dark universe of chance. I felt it as almost a kind of love between strangers, in which my mental being was in no way divorced from what might lie behind a chipmunk's eye.



I remember another chipmunk, in Vermont this time, whose chosen ground was a hillside pasture. I came on the animal when it was carrying part of an apple up a slope toward its hole, located in the side of a ridge some twenty feet above an old apple tree. When it saw me it dropped the apple, which promptly rolled downhill. Then it watched me with that silent waiting on chance, that throbbing look of expectation which they have, one paw twitching slightly and clutched to its chest. I was quiet, and at a respectable distance, so the chipmunk picked up its food again and hurried back to the hole; but the apple was too big to go in, and it rolled back downhill. This happened four times. The apple rolled down. The chipmunk hauled it back up, turned it around, put it up against the hole, a little like a man facing the problem of moving a large bed through a narrow door. Finally it nibbled bits off the edge, slipped sideways into the hole, and pulled the apple in after it. I stole up as quietly as I could and saw that it was eating away successfully with its food overhead. A problem had been solved, and with a fair amount of intelligence.

The illumination we find in nature does not necessarily come from comparing degrees of intelligence, in which man always finds himself the winner. The light goes deeper. Our analytical ways, our methods of order, imitate an order which is indefinitely resourceful. Sometimes it shows itself past explanation. It is like this September evening after rain. For a short time, ten minutes perhaps, not long before dark, the earth is colored with magic, shadowless light. The grass is intensely green. The sky turns gray and pink. Distant fields are red and astonishingly bright. All colors are sure and strong, joining in pure gradations. The evening is full of mystic peace. A kitten watches the light, transfixed in the doorway (together, for all I know, with some chipmunk by the stone wall outside), arrested by what I in my own silence can only think of as an unmatchable glory, never to return in quite the same measure.

October

Where Is Home?

The ordered days wheel on and fall into patterns consistently new. On further acquaintance, the place I live in seems to extend its boundaries and add to its store of lives. I struggle to understand. The more I add to my list of things as time goes on, the less my crude interpretations fit the circumstances. I started here with a tract of land. I built a house. I have a family. I am not yet sure of my location. The kingfisher says one thing, and the frog another. The snake travels a few thousand feet of home area, and the tern thousands of miles. They are both on Cape Cod. Then one leaves another. All action blows hot and cold with endless variations. A little knowledge makes my center rock with uncertainty.

I am not even a native in the strict sense, and cannot be said to know my way around by feel, as a man might who was born here. I had a talk the other day with a time-honored Cape Codder on the subject of how fish or birds found their way. He was not able to give me any illumination on the scientific aspects of the subject, but when it came to human beings, he did give me some tips on how to avoid getting lost. I had confessed that I once set off in a rowboat and was lost in an offshore fog for the better part of a morning, rowing steadily in the wrong direction.

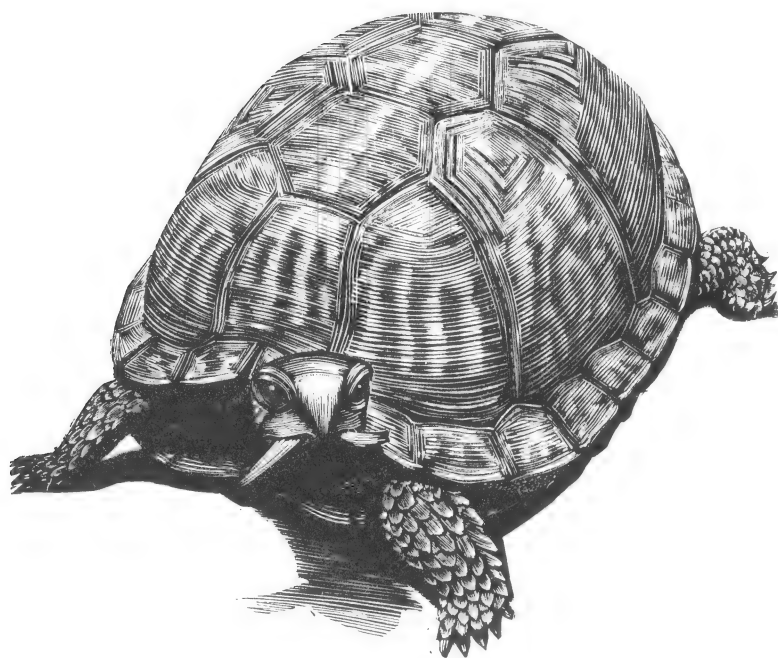
The next time that happened to me, he suggested, I should drop anchor and wait for the fog to lift. In that dense shroud it is also possible, if you happen to be wading in shallow water, to lose sight of your boat when it is only a few yards away. Under such circumstances he once used his fishing line to help him get

back to the boat by using the lead sinker as the center of a compass, playing out the line and circling until he reached it.

The sea can be a trackless wilderness only a few yards offshore. Natives have been lost in it as well as newcomers. Still, there is no substitute for acquaintance, for knowing the sea's look and its ways. This man claimed he could feel his way in the fog. In other words, taking in all factors, familiar or deducible, such as the way the tide is running, whether it is ebbing or rising, how the wind goes, and from what quarter, or even guessing direction by the ridges on a sand bar, he could take the right course, without, as he put it "letting my judgment interfere."

It took me a while just to learn the local compass directions, but now that I have my north, south, east, and west inside me, I am not sure, even walking through the trees, that I will not bump into my old ignorance. It takes time to find your way. A man new to the countryside might well be envious of some of the older inhabitants that know where they are without trying—a turtle, for example. A box turtle's slow motion over the year seems like a true measure of ancientness. While the birds, the fish, the men depart, this dry land reptile seems to feel responsible for holding back, for the weight of the earth itself. In the springtime I have seen a slow pair approaching each other in a mood of affinity, while the rest of the procreative world danced overhead, and I have seen a female laying her eggs in a sand bank, covering them over with a last shove of her hind legs, then moving away, a little more quickly than usual, it seemed to me, as if to return to the more agreeable task of waiting things out. When fall comes and their cold blood slows, they grow torpid and finally dig out of sight into the ground.

On one of these warm days in early October I hear a slow dragging in the leaves, and come upon a box turtle eating a mushroom. They have beautifully patterned shells, ocher or yellow, sometimes orange, and dusty black, almost batik in design, with many variations. I stand about eight feet away, while it holds its head and neck straight up, watching me. I guess it to be a male,



by the bright red little eyes. The eyes of a female are a darker reddish brown.

His wrinkled red neck pulses a little. His yellow beak and curved mouth line are tight shut under his flat-topped head, with bits of mushroom sticking out on either side. Very comical, he looks; but he stares down any inclination in me to laugh out loud. He watches me without moving for a full fifteen minutes before I get tired of the experiment and go away. Nothing, he seems to realize, can outlast a box turtle. This old male, with his wrinkled red jowls, and his soft, puddled-looking feet, must represent some antediluvian complacency, or, for all I know, a reasonable pride.

In captivity box turtles have exceeded forty years before they died, and some grow to be much older than that, if they avoid being crushed on the highways or killed by forest fires, since they are otherwise invulnerable to most predators, excepting man. This year a box turtle was found locally by a man whose deceased relative had carved his initials on its shell in 1889, making the turtle seventy-one years old. How old the turtle was when so tagged is not known.

They are wanderers—more so, for example, than the water turtles, and with a certain assurance. Within their chosen environment, of open field, shrubby slope, or marsh periphery, they cover a great deal of ground. They seem to carry a staying power with them, and an ancient decorum. They are like old natives true to ancestral places. There is something enviable about this fittingness to home.

Still, I have enough modern restlessness or rootlessness in me to think that a home or piece of land probably has fewer boundaries than ever before. We are going to have to know our location “way out,” as some of the old Cape Codders used to say. I have an equal envy of the terns that are flying toward the Caribbean or the Antarctic. They are birds of the world, in which they know their direction by markers that are light-years away, or so some scientists believe after much investigation. The latest theory is that migrating birds find their way by the sun’s changing position dur-

ing daylight hours and by some of the constellations at night. They have a built-in mastery of what it took many thousands of years for man to learn, with his surpassing intellect. They are readers of the stars. Their home is in the wide blind sky.

The Field of Learning

We are committed far from home, but for a field of learning, the start and the finish is still here, still in place, just as that unique season of October, presaging a death in the glory of its color and clouds, brings the first frost, as if to say: "Regard necessity, in all its aspects. Look no further."

It never comes without warning. One night a thrashing, thicket-tearing wind arrives with much greater cold. Two nights later another wind blasts all warmth away, and when it dies down the frost settles in, leaving a crisp whiteness on the grass at dawn, and clouds of white vapor over the pond waters. The garden beans go limp and the wild indigo turns black.

In that wind the low trees are like a sea, pluming and foaming. They are tossed and rocked, they pitch and writhe, while the stars in ordered majesty stream overhead. When the temperature starts to go down there is not a sound from the insect musicians any more, not one pizzicato, nor audible dry pulsing in the trees. You might think all breeding was over, though generation is latent everywhere.

Then it grows warm again. The insects sound in the grass and in the trees, if to a diminished extent. Crows gather in the early morning, and their various calls, synchronized in the open air, over the treetops, sound highly melodious. I hear a robin caroling, but very quietly, almost out of a playfulness, a musing. In spite of inexorable change, there are false dawns, days, or hours of deceptive warmth that set the long-horned grasshoppers to their buzzing and clicking and the flickers to shouting with renewed energy. All

through the woods tiny tree frogs pipe at intervals from the cover of damp leaves. The pools in the fishway at the Brewster Herring Run are loaded with warm October sunlight and three- to four-inch alewives going down to salt water. A kingfisher planes up from branches above the stream with a rattling cry.

The pattern is one of reduction, depopulation, cutting down to size, but like all other shifts in a season, this one is manifested as another angle of light, a different feel to the air, a new set of circumstances, as much as a stop to all activity. When the fall winds swish and swoop along the shore, and I walk the tidal flats, a wide space played upon by light—gold, brown, and blue reflections running through pools and across long ribs of sand—I am regenerated by all the choices that are still ahead of me. Nothing is fixed or finished. It seems to me that everything I encounter is driven by indirection, like the waves and rivulets, sun tangled, that are crossing each other and separating over sand bars during an oncoming tide. Here is the ordered complexity which ensures that our findings, or rather, our search, will never have an end.

The finding-out process begins in childhood. That is why teaching is so great a profession. We intellectual animals have a long period in which to learn our wings. The teacher's role is to bring us toward our highest capacity, and the tortures of that are immeasurable, on both sides. The field of learning is as wide as the sand flats, and the results as hard to catch as the waves; but a teacher has help from his pupils in ways over which they themselves have little control. Children have new fingers and new eyes and have to be coaxed into using them, but the touch and sight they bring cannot be taught in the schools.

I have found out lately, after some attempts at teaching natural history, that nature springs in a child and a child in nature. You learn that you are teaching both.

Why is one so proud of ignorance, and another of hiding what he knows? Some make a violent effort to be noticed; others, to retreat from view. You have an ambivalent and groping world to deal with, as hard to tape or tie as some of the phenomena

you lead it to. But life is present tense to them, neither past nor future. They seem to pick up its manifestations not with adult skill but on the fly, like a boy casually catching a ball after missing ten, and then being surprised at himself. How did it happen? Memories, complexities, prejudices, risks taken on behalf of the future are largely unknown to them. It is enough to be new. There is not even any choice, since all choices are open, being new. Children are the unpredicting and the unpredictable. The one thing in which they never fail is growth, like the natural environment which never fails in its variations on the theme of fertility.

One mild afternoon two of us take out a group of boys on a field trip along the shore, a beginner's collecting expedition. The class runs ahead. They find a dead loon on the beach, with rove beetles, lovers of carrion, roaming through its body. These beetles have black and white stripes, suggesting a skunk to one boy, who is still young enough to admit all affinities.

They run on, with erratic energy. They lend a puzzled ear to our explanations of how life forms are related to the places in which we find them. They are not quite certain of our terms. What is "environment?" What, for that matter, is "life?"

Classifications come hard to them at first. Certain types of recognition take a long time to learn. When I think that at the age of thirty I didn't know the difference between one gull and another, not to speak of their different calls, I am hardly surprised.

"What's this?": a dune-dwelling locust, an ichneumon fly; a slipper shell, a shred of kelp, a spider, a scallop shell . . . all parts of a game, novelties. But when will we know how to fit them all together? An impatient teacher might think from these boys, with their degrees of inattention, that the game will never get under way, that the preparation will never end. Yet their own lesson is that readiness is all, and the outcome immaterial.

I am only half acquainted with them, although some of their native traits stand out plain to see. In one there is a shade of melancholy transplanted from his father, in another courtesy and gaiety. One is rough and full of the fever of unregulated competi-

tion. Another is quiet and slow, or quick and sensitive. Together they share a mystery. They are in active flight like young birds, and at this point, this moment of being, allowed its own growth without real harm or hindrance, they give an offering. It is the act of their unknown selves.

They catch some more insects with their nets. They find the bright yellow feathers of a flicker which had been caught and eaten by fox or owl in the beach grass. They identify the remains of a young herring gull washed onto the upper beach. The tide has ebbed and the sands stretch off with glittering lanes and rivulets—gulls stalking in the distance, or resting in white flotillas on the water—and blue salt water curves beyond, over the earth's perimeter. The October shadows begin to stretch farther down the sands. Light, smoky clouds drift over and a strange little shower of rain comes down, running along the beach, disturbing no one. Then the sun comes clear again, moving westward. Everything we collect, all that we can say about it, is only a start, a suggestion, although each sample leads to all others. We have left a great deal behind. If the north wind roars in again tomorrow, sweeping all warmth away, killing more of life's visible evidence, or making it cower in the earth, and causing colds and crabbedness in human society, we will still be setting out.

Colors of the Season

There is yellow and peach pink on the leaves of the red maples, and some of the oaks begin to show signs of changing, but the most colorful plants are the mushrooms. The wet weather has been providential for them, and they have come up in some areas where I cannot remember having seen them before. They thrust mysteriously but stubbornly through the grass in a wide semicircle of white moons. They parade up the side of trees, and across the wood floor their cups or parasols stand comfortably grounded in dead leaves or decaying wood. (We see only the flower of the mushroom protruding above the ground, while underneath lies the complex mat of fine fibers from which they blossom, the mycelium.)

For such pulpy, soft, almost immaterial-looking plants, mushrooms show a strange power to lift, which is caused, in reality, by hydraulic pressure within them, amounting to as much as six or eight pounds per square inch. They come up through an inch or two of concrete, or through the asphalt surface of a road. They move the heavy bark of old logs aside. One of them puts up a scaly dome under the edge of a pump house eave that almost touches the ground, as if it intended to lift the roof off.

When we think of fungi, we have a justifiable association with rot and decay, mildew and mold. They lack chlorophyll, that famous green substance by which other plants are able to absorb the energy of the sunlight and through it convert carbon dioxide and water into food. The mushrooms, like other fungi, get their food directly from organic matter, rich soil, rotting wood, or leaf

mold. They reproduce by billions of tiny spores, each of which, or rather, the comparatively few that catch, are started in such a matrix. In a sense they are procreative flowers of the darkness, annuals which the earth puts forth in its own teeming right, regardless of the gay slaves of the sunlight. But they are colorful. They wear the earth's sulfurs, umbers, and ochers, its iron rusts, light greens, grays, and whites, as well as some startling rose-reds and vermilions.

I find a small one in the wet leaves which is a lavender-blue, named, according to my reference book, the violet cortinari, and good to eat—surprisingly enough. Color is no criterion of what is poisonous. The deadly amanita does not have the flickering blue-green color of something low and ominous, nor is it a dangerous red, a signal for all but the most reckless to keep off. Some of the reddest mushrooms, in point of fact, are the best to eat. But the deadly amanita is almost tempting in appearance. It is white and succulent-looking, and to eat enough of it means death.

A strange thing, the mushroom, of short annual appearances (though the roots, or mycelium, are perennial), of quick growth and quick decay. Some of them are already turned into rotten dark brown, nearly liquid heaps. Others will gradually dry up and disappear, but now, on this tag end of a moist season, they are the local bounty. They have curled edges like cabbage or dead oak leaves. They take the form of single stems and fronds like seaweed. They are fringed, scalloped, round or flat, thin or fat. They bunch together at the base of an old stump, or they climb the side of a tree in shelves. Their heads take the form of lima beans, or floppy rabbit ears, fans, umbrellas, trumpets, shaggy hats, or cottage roofs. They are scaly, rough, smooth, or silky. They have thin stems and dainty heads like flowers; or both head and stem look like one great overgrown protuberance. Here and there, coming through the leaf litter, are yellow bunches of coral mushrooms, so called because they have the look of branched coral; and in the deep shade they seem almost luminous. In fact, whether or not any mushrooms do have a luminosity, like some fungi, they have a

glimmer of decay about them in our imagination. They are of the earth unearthly, in spite of the fact that many of them provide substantial beds for insect larvae, that they are good, if sometimes treacherous food, and that they can raise the top off a road.

This year has also been rich in Indian pipes. This is that unreal, pure-white plant, which, in more mythical times, has been called the corpse plant, or ghost flower. It blooms by itself, though out of the moist woodland humus like the mushrooms, lacking chlorophyll as they do. There is some dispute apparently, consistent with the Indian pipe's ghostly nature, about what it really is. Some books refer to it as a "saprophyte," which means a plant that absorbs its nutrition from dead or decaying organic matter, but in others it is called a "parasite." A parasite gets its nourishment from a living host. The Indian pipe has a very small mat of rootlets where the thick stems join together at the base of the plant. If you dig it out of the ground it looks as if it were resting on bare knuckles. These roots, according to the botanists, have an outer layer of funguslike tissue, which means that the fungus rather than the roots has actual contact with the soil. So it sounds as though the Indian pipe, being dependent for its food on the fungus and not the soil or humus, were a parasite. Another alternative, if the fungus gets any nourishment from the plant, is that they live in a state of mutual association, or symbiosis. Thus science, still trying for exactitude, and the Indian pipe, still unaccountable. It seems to be on the verge of several worlds rather than an integral part of one, a plant you might meet in a dream.

Other old and once popular names for it are: Dutchman's-pipe; fairy smoke; convulsion weed; eyebright; bird's nest; and American ice plant. It was called ice plant, according to Alice O. Albertson in her *Nantucket Wild Flowers* (1921), because "it resembles frozen jelly and is juicy and tender and dissolves in the hands like ice." One contemporary authority calls it "clammy," which is accurate enough, and keeps it in the realm of ghosts and chills, but I think it was an exaggeration to say that it dissolves in the hands. I find it solid enough, not fragile or perishable to the

touch. Its stems have a fibrous, tough core, which is sometimes hard to tear. It also has a pungent, woody smell, though this probably comes from the soil it grows in.

All the same, it is an elusive, beautiful flower, a miraculous specialty. Coral pink shines almost translucently through the stems, which are covered with tiny white bracts, or scales, taking the place of leaves—scales of a tiny albino fish perhaps—and the bell-like flowers hang their stiff white heads straight down, with pink seed pods standing up between them, round, decoratively grooved little crowns. When the plant dies, it stands for months as a thin, brownish black string, having turned from beautiful ghost to lifeless reality.

Over the mushrooms and Indian pipes, in subtle relationship to them, the leaves are losing their green chlorophyll and revealing the other, more stable pigments that last out long enough to make the familiar glory of the autumn. There is not so much a general “dying” in the fall, as an adjustment. Insect eggs are in the bark or ground, the mushroom spores are being carried through the air, the grasses are heavy with seed, acorns drop to the ground. One day last October I was hit with a shower of acorns from the white oaks. This year, since oaks fruit heavily on different years, I notice more acorns from the black oaks. How fast these acorns get to work! A little curling, probing, adventurous sprout comes from the nut, and in a short time has grown several inches. A few manage to take hold before the ground is frozen. A multitude of others provide food for squirrels, chipmunks, or blue jays. The measure of these arrangements is complex and elaborate. Between the leaf of a tree and a mushroom, worlds apart in function, there are connections of rainfall, temperature, or sunlight, in a context continually new, and though the ground colors fade, sunsets, seas, and inland waters will take over their active play.

That great bonfire of a maple tree—one special to my boyhood—that I used to marvel at in the New Hampshire fall, is here replaced by second- or third-growth oaks. I now live in a stunted land; but as it is the sea which surrounds it, so, in its long low

stretches, its glacial hollows and running hills, it rides ahead like open billows. The early splashes of color come from the red of the sumac and the purple-reds of the huckleberries and blueberries. Then color begins to spread through the oaks, that war with yellow-green pitch pines for living space. Yellow or red streaks show in the leaves of the white oak, orange in the waxy leaves of the post oak, brilliant red in the scarlet oak. Then deep reds, maroons, cowhide yellows and browns pervade them, and our woodland surroundings seem full of a beautiful propriety, a beauty in necessity.

Occasional copses of beech trees are shining with golden bronze; and tupelo, or black gum, trees, with scraggy, undulant branches, have little leaves that are a blazing, livid red. Over bare hillsides the "hog cranberry," or bearberry, a perennial ground cover with shiny leaves, is hung with cherry-red fruit. The cultivated cranberry bogs show broad stretches of purple-red, shaped, depending on the area, in squares, circles, or oblongs, all, if well cared for, neatly ditched. The tidal inlets and marshes run with flaxen and gold, spotted at their edges with light festival red from the berries of black alder, a form of holly.

These flaming revelations signal the trees' reaction to the decrease in light's intensity, or the colder temperature of the soil. The leaf decomposes. The tree withdraws and makes ready for a leaner season; but it is too big a display for mere "adjustment." You will not find the category of color in a historical dictionary or the encyclopedia of social sciences, but in this temperate zone at least, it is now an integral part of the history of change, and of natural society.

There is a deep little hollow nearby called Berry's Hole. Many years ago it contained a cranberry bog, and it is still wet bottom land with water around its edge, and a center choked with moisture-loving shrubs and reeds. Frogs take advantage of it, as well as water insects and their larvae. Wood peewees nest around it in the springtime. Now it is radiant with its special version of the fall.

In the middle of October, sheep laurel is still green on the surrounding slopes, through the purple huckleberry bushes. I walk down them into a raining screen of leaves. Berry's Hole is circled by red, also called swamp, maples, and their red and yellow leaves, light and delicate compared to those of the oak trees on dry slopes above them, slip down constantly through the bright air, drift, eddy, and finally touch the ground, or fill the brown water with loose-lying, sinking rafts of color.

A green frog leaps into the water with a squeak. I notice a box turtle on the bank, with its head determinedly locked in this time. Its markings, on an almost black shell, are dashes of yellow, and a rich reddish orange that reminds me of a Blackburnian warbler.

Response to color is response to energy, the radiance and the reflection of light. I close my eyes after looking across the sun and see red, the color of warmth and desire. Around the eye of Berry's Hole is the red of blood and the yellow of the sun.

The Last Day in October

The night, after a deceptively bright and soothing day, seems suddenly withdrawn. The wind has a hard feel to it, as if a northern authority had come to stay. Heavy rolls of cumulus clouds hang in the sky when morning breaks, and the Cape begins to look like my winter image of it, dank and cold, with inert, slate-colored seas investing its shores. The oak leaves have turned a darker, more lifeless red, or they are light brown. I notice that the leaves of the white oaks are among the first to die, beginning to curl up like stiff, ancient hands, with an ashy pallor on them. The scarlet oaks are the last to lose their color.

As a result of their definite adjustment, insisting on certain rules of change before many of the rest of us are quite ready, the oak woods seem to have a dark, plenipotentiary look. The trees stand in self-saved, stiff company, although the animals that visit them are lively enough. I watch a gray squirrel burying acorns in loose dirt at the edge of the road. He has that continually twitching, starting and stopping, restless being of his rodent relatives the red squirrels and the chipmunks. He runs back and forth over the sandy earth burying the acorns, and then, as if unsatisfied with the places he put them, bringing them out again.

The squirrel's gray, fur-clad body flows with suppleness. The big gray tail is sudden too in its motion, stretching out behind, or up, with curled tip when the animal stops to sit. He quits his activity, and with a long bound and dive he is up a tree. Along with its slapdash motion, but provident method, the gray squirrel may also have a touch of foolhardiness in its nature, though even

the most practiced make their slips. I have never seen it happen myself, but a friend tells me that he has seen gray squirrels miss their leap occasionally in high trees near his house and fall to their death.

The leaf litter still fairly jumps with mice and shrews. A little blind shrew with dark gray pelt and pink nose slips out of a bank of leaves where I walk. It swerves with astonishing speed and squeaks angrily at me before it dives out of sight into the leaves. This, in contrast to other members of the mouse family, is a fighter.

I go into a part of the oak wood which has been a little more protected . . . a hollow fenced in and fringed by strands of bull briar. It is an open space where deer have come in to paw the ground and settle down at night. Skunks have left little holes where they clawed into the leaf mold on their hunt for grubs. Towhees have scratched the leaves apart. Cottontails have stopped here, hopped, nibbled, and jumped away.

This land is mine. The deed is recorded in my name. But I cannot claim to have put it to better use than the animals to whom it is public property. It belongs to the deer, the skunk, the rabbit, and the towhee, who eat, pass through, or take shelter there. With my approach, of course, the whole question of tenure is rudely solved, except for the countless stay-at-home organisms in the ground beneath me. The deer turns once with a large gaze, then bounds away with its white, electric brush of a tail flung up. "Boom!" a partridge thunders up, cuffing leaves and twigs with its wings, and hurtles off through the trees. A crow gives a warning call as it flies overhead. I am allowed the land if I want it, though not much trust is involved. But why should I expect comfort or acceptance, in this open realm of risk? Neither man nor deer was mother to the skunk. It knew its own. Chance meetings will do, for the love I find in them.

On the calendar this is the last day of October, and it has some justice to the title. The lunar months mirror the general character of the year's transitions. In spite of the fact that all sin-

gle days are lost in the passage of light and we are left behind, this one seems full of an end and a turn to something else. The local life is making its last forays, before a time of dormancy, hibernation, or struggle to survive. A mourning cloak butterfly beats lightly by, with no other companions to be seen. I find some mud dauber wasps, flies, and a cicada killer, all hibernating in a pile of rotten logs. The woods are full of the intermittent beauty of the last oak leaves, red, with a deep tone in the gray day, and the sumacs still show their shining raspberry color on the surrounding slopes.

The late afternoon is cold and quiet. I regret the shorter day and the need to leave the great air so soon. But underneath lowering clouds is a growing gap of swirling orange toward the west. As the light recedes around us, the sunset begins to show the power and surge of pattern in the sky. Coils and whips of gold at first—bold, bright, far away. Then spun gold behind dark barriers—the ribs of whales, giant minnows, plumes tinted with salmon, the curving timbers of ships, and all things rare and imaginary plunging through an oceanic fire. Also I see golden October going, in fields of last excitement. But what this and many other sunsets say is “Come on!” However you use your days and nights, in speed or muddled preoccupations, come. It will be too late soon for the feast that is now, whose fires are always carrying over to the other side of the world.

November

The Seed in the Season

The glory goes, and there comes the first sudden plucking out of dead leaves. They scud and sail. They lift and fall to the ground, where they sometimes scuttle unexpectedly like mice.

November rolls into view with cool, solemn, formal consistency. When it rains they say: "I'm glad it's not that white stuff," although Cape Cod is not noted for its snow. There is no deep and heavy frost as yet, no northeast gales driving wet flakes at our eyes. A number of Cape Codders migrate to Florida for the winter. Daylight diminishes. As the leaves drop off we begin to see more distinctly between the trees. I find two spotted turtles moving very slowly through the waters of a ditch at one side of an abandoned cranberry bog. In one open field there are a few red-legged grasshoppers, much less active than a few weeks before. An occasional cricket, grasshopper, or spider is spotted and animated by the rays of the sun when it bursts through drifting clouds. Here and there a violet aster or late goldenrod stands in bloom between innumerable plants that are fuzzy with seed. The milkweed still sends crowds of little silk parachutes shining on the wind.

We are now in a genuine country state of which the urban power talks with both scorn and ignorant nostalgia. The summer no longer pounds at our temples. The fall color is gone. There is nothing to look at, and very little to hear except the wind, or a plane in the distance, a car on the highway. To a city lover it is silent and deadly dull.

As to the nostalgia, I doubt that there is much stress any more

on the virtue implicit in country living. Since all men now dwell in all places, they question virtue everywhere; but some still talk as though the country were a place for that intangible peace and moral order that they think is lacking in the world. The country, however, is in the grip of a power that has no moral values and is greater than morality. It is false and true. It is benign and it is terrible. It cures and it kills. And I do not suppose that whether or not the earth is made up of human cities can make much difference to it. I am waiting for a deeper tone than hope.

There is no noise or compelling distraction in a field or stand of trees. Still, a forester suggested to me that if trees could make themselves heard, in their internal growth and adjustments, the roar would be deafening. The same thought has been applied to life in the ground, with its countless microorganisms, in a state of continual displacement and turmoil, growing and dying, consuming and being consumed. They too might roar. We have enough at hand and under our feet to make general tumult no surprise.

The point about this countryside is not its isolation but its potentiality. It is in charge of origins. What is more dramatic than the production of seeds in plants and grasses over one small field? The seeds are in uncountable numbers, and each one is a miniature plant, an embryo, surrounded by food and a protective coating. It is an embodiment of force. It eats and breathes, and now goes into a period of dormancy like an animal, ready to germinate in the spring when conditions are favorable. Such facts are part of elementary biology, but they cover up the stir and momentum of the globe.

These seeds, on grass and weeds now growing thinner, drier, more colorless, are not only rich in generation, on their own account, but they provide beyond themselves. The juncos, or snow birds, that come down from the north will survive on a seed diet throughout the winter, with the sparrows, and that sustaining food the mice, preyed upon by fox, weasel, or hawk. The simplest "food chain" suggests the links in many others. In fact there is no fundamental separation anywhere in this common world of life, de-



spite the greatly various environments of water and land that we use to help us differentiate between the species. Winds blow through. Tides lap over. Each plant and animal is proof of general contact and association.

The insignificant seed has energy and sustenance enough to perpetuate many worlds. It makes me look at mere grass with more interest than I did. I believe there are some fourteen hundred species of grasses in the United States, of which I know less than a dozen. There is one grass which grows in many areas of the Cape, through open slopes, pine woods, sandy, run-down fields, that I have heard called beard, or prairie grass. I have walked by it, on it, and through it for years without knowing its name, though its nameless, light-catching beauty often caught my attention. It turns out to be broom sedge (*Andropogon scoparius*), a plant that reaches from here and the Middle Atlantic States south to Texas and across the southeast to California. It is a poor soil, poor forage grass, appropriate to this nonagricultural region. Its stems rise from a bunch of curving, rustling leaf blades, and are covered with tiny florets that go to seed in the fall, little feathery tufts. As the autumn months progress it grows more colorful, deepening to tawny pink, with a touch of purple, before it takes on its straw-colored midwinter hue. The little silky feathery tufts shine in the sunlight like the slightest spits and sparkles on a pool, or tiny plumes of frost, intangibly gentle, sustaining their brightness as the winter comes on. The stems are two to three feet tall, and with their delicate adornments, they stand the year around, stirring, curving forward, nodding back, with the utmost refinement. So I praise what is for me a new discovery, though it has stood near me in its own praise for many years—a country eloquence.

Almost all local preparations are done. The seed is sown and made ready. The time for persistence is coming, when those grasses we take so much for granted will hold our earth together. When the sun warms them, drying on slopes and through old fields, they smell sweet underfoot, a natural, uncut hay.

The Clouds

The power of sending on is latent in the seed, but the weather itself is always openly manifest, and when the leaves fall, when the summer nests begin to show up in unexpected places, then it hits us even harder. The northeast winds are beginning to be something to hide from. The sky stares with a wider, colder eye.

When it is cloudy I hear the dull drone of unseen planes far above me, and I think of a world at large that is teeming with meetings and negotiations, losing decisions, waiting on results. The immediate earth seems to shift, tack, and decide according to its clouds, that slant up the sky in fibrous strands, hang deep and low, or lift across the sunlight.

The sun's rays slant lower between the open aisles of the trees, and there is a keener, icier edge to the light. I walk out through a hollowed, dipping and waving landscape onto gray-green lichens, and dry, sweet-smelling grasses of an old field laced with briars, and the pale blue sky is on top of me with intoxicating height. The vapor trail of a jet plane cuts across the sky for miles, while slower clouds ease and change across the November blue, allowing lazy time for the imagination.

But if to imagine is a dispensation from nature that allows us to take part in her intricate creativeness, then it is no idleness. Rationally, a cloud, whether cumulus, stratus, cirrus, nimbus, or a combination thereof, is what it is: a collection of drops of water, or ice particles, suspended in the air. Meteorology as a science must be one of the most intriguing, since its subjects never sit still. I would, if I could, make an analysis of the clouds that are typical

of a season, the changes in pace that make themselves known overhead; though the old maritime men of Cape Cod could do a better job. They knew what they depended on, in the way of calm or storm, and predicted what they felt. Subjective interpretation is suspect these days, but it implies a common familiarity for which objective analysis offers no substitute. The sensate imagination, with its head in the clouds, finds interconnections past their specialty and name.

Clouds, collecting moisture from the ponds, lakes, or ocean waters, have many of the shapes and patterns of the land, or head, if you like, that they come from. We can find faces in them, as well as in the dregs of a teacup; but they are the images of an invention that is more fluid than our own. Their texture may cause them to look like scratched, glacial rocks, or they are wooly and fibrous at the same time. They might suggest cocoons or the nest of fall webworms. They hang in snowy shoals or in striated banks. They ripple like the sands at low tide. They look like whitecaps on the sea. They move as slowly and inexorably as fields of ice, or in quick bursts ahead of the wind. They roll in mountainous abundance, or fan out like a river's long fingers stretching out across a delta.

Clouds suggest seaweed, grasses, wings. Occasionally they remind me of ferns, and of the fernlike patterns that the frost makes on a window, or they resemble some basic structure of a living thing. As plants and animals are united in fundamental physical laws and in their chemical composition, so clouds, for all their evanescence, cannot be separated from the world of life. Clouds are announcements of progress and decline. They show the sky's adventures. There is more to them than my fancy. The light, the wind, the altitude, temperature, time of day or year commit them to a definite size, shape, and existence. They are images of substance, in a motion which casts everything into its weather, including that human sign on the sky, the jet's trail, imposing an abstract scar ten miles across.

The Inconstant Land

When the clouds cover the sky like gun smoke and the air feels cold and restricting, I am reminded that the character of Cape Cod has nothing to offer an uncertain world except uncertainty. Its trees are not of a size to hang on to, and its dunes shift like the waves. It is a land that men have ravaged with fire, not excluding the Indians who preceded us, and abused without compunction. It is said there used to be great stands of trees on the Cape, hardwoods, hemlocks and pine. The remnants of submerged Atlantic white cedar forests have been found as far as three miles out in Cape Cod Bay, and bog borings have revealed the evidence of timber in some areas where trees now have only a bare subsistence. But during the nineteenth century, judging by photographs and local account, this peninsula was much poorer in trees than it is now, even though our local woods cannot be given credit for much height and dignity.

A man from New Hampshire visited me briefly a few years ago and said: "What in the world are you living here for? There aren't any trees!" I pointed out to him that we had the sea, but the place seemed poor and flat to him, and he headed back to the mountains and tall timber as fast as he could, though he first chose to have a lunch of seafood, on his way out.

When I bought the land I live on, it had a desolate appearance aside from a long view of the water, but its high wildness appealed to me. It was covered with dead oaks, standing everywhere like stripped spars. They had been killed off by a severe infestation of gypsy moths, and were, in any case, weak, cutover growth to

begin with. The local landowners cut the woods down almost completely, then waited, twenty-five years in many cases, to cut them again. Others cut for firewood whenever they needed it. This area is covered like a rabbit warren with tracks made by wagons coming in to take out wood. I talked with a man recently who used to ride on the wagon seat with his grandfather when he was a boy. They liked to pull trees out when the frost was in the ground. Even then the wagon would be so heavily loaded that it sank in almost to the axles, with the horse pulling hard in the middle. The deep ruts are still to be seen. Besides taking out the wood for sale and for their own use, the owners would sell it "on the stump," letting individuals go on their land and cut.

Since this was a country whose inhabitants often made a sparse living out of livestock as well as fish, the land was also used for grazing. Cattle and sheep kept the brush and ground cover down. Many sandy hillsides were not only bare, but beginning to erode badly.

In his *Cape Cod*, Thoreau speaks of the country between the towns of Barnstable and Orleans on the bay side as being "bare, or with only a little scrubby wood left on the hills." "Generally," he writes, "the ploughed fields of the Cape look white and yellow, like a mixture of salt and Indian meal. This is called soil. All an inlander's notions of soil and fertility will be confounded by a visit to these parts, and he will not be able, for some time afterwards, to distinguish soil from sand."

Fire has tormented the Cape, ever since the Indians, who used it to clear areas for corn, or to increase the visibility when hunting game. When the humus on the woodland floor is thin, and the trees not healthy or high enough to provide protective shade, thus retaining moisture in the ground, a severe drought may make them ripe for burning. I have heard it said that fires used to be set deliberately in order to improve the blueberry crop. And a neighbor tells me that he has seen thirty or more fires set by the sparks from a train, chugging down the Cape, as he watched from a bare hillside half a century ago.

Oddly enough, the pitch pine owes a great deal of its present prosperity to fire. It is one of the few trees whose roots stay alive and which comes back after an area has been burned over. Most of its competitors, except scrub oaks and black oaks, are killed off. It is a tough tree, and when it grows to good height with its rugged, wind-whisking look, a beautiful one; but it has its vulnerable points. It is very greedy for light, being what the tree experts call an "intolerant tree," and it cannot stand competition. Pitch pines that come up under the shade of oaks or even of their own kind, soon die off. They demand their own ground. The oaks, especially the white oak, are much more tolerant of shade, and may in time push out the pitch pine, provided fires are held to a minimum in the future.

The oaks are monumentally persistent. Cut them down fifty times and they will sprout back from the roots, which merely spread out a little further and send out more shoots. These "sprout hardwoods" have poor quality wood. They have fungus diseases, and are subject to attack by insect borers. The general attitude toward them is that they are worthless. Now that they are not much in demand for firewood, the bulldozer, rather than the ax, is their major enemy. But they deserve some admiration for holding their own. The first year or two after cutting, a sprout oak will grow very fast, but then it settles down for a long future, beginning to grow at a slow, insistent rate, taking what comes. This is a windy and salty land, where oaks may never grow to great girth and height, but they seem eloquent about their right to last out the next five thousand years on Cape Cod as well as we, even though thirty feet, or in some areas five, may be the maximum they reach. This is their chosen land.

The late fall wind makes the brown oak leaves rustle and stir or sound like hail, and it soughs through the pitch pines. The whole year is full of the collaborative music of air and trees. They may be poor trees, low and rangy, subject to great abuse, but in their growth they make the land march between its surrounding waters. The gray oak trunks go in ranks and tiers

for mile after mile down the center of the Cape, interspersed by individual pitch pines, or backed up and sided by pines in independent woods that look rounded and bunched in the distance, pocked with dark green shadows. The oak branches thrust up their candelabras of branches and stiff twigs against the pale sky, ready for next spring's sunlight. The pitch pines stand with scaly, dark brown trunks and thick needles rocking and switching around, authorities on wind, and sandy soil, on impermanence, on taking your chances when and where you can.

Geologists say that this truly "narrow land," no more than a mile wide in some sections, seven or eight in others, may vanish under the sea in five or six thousand years. Its border of sands is always in the process of roaming and shifting. The Cape has no bedrock. Its rocks are migrants, brought down from the north by moving ice. In spite of the evidence of some once fairly rich timberland and deep topsoil, the Cape does not convince you of any depth and permanence other than its alliance with salt water.

The sea gives and the sea takes away, breaking through a barrier beach during winter storms and roaring into the marsh and sheltered inlet behind, cutting down cliffs a foot or two a year, or imperceptibly stealing inches from a low-lying shore; while it adds new beaches, packs new tons of sand around an outlying spit or shoal. Last year, when I accompanied a group of children on their geology class, we uncovered a burying pit for horses and cows in the sandbank at the head of one of the bay beaches. If there had been a farm in the vicinity, a hundred years or more ago, the sea may well have cut in over half a mile to reach these bones.

The winds sweep overhead, or merely threaten, the beach waters lap gently, or bridle and roar, and the only stability I feel is that of the tides, a lasting balance between the give-and-take of water and land. The Cape's ravaged past and stunted present seems transmuted into motion. What this spit of land has taught me is an altered sense of the context of time. I once saw a tree

either as material for the woodpile, or something with a growth so slow as to pass notice. Now I have begun to see trees moving by the million in a million varied places. Natural change is made up of so many circumstances, the continuum of life in its vast order is so far from being held down by history, that everything requires us to move on into the distance. It may well be regretted, but Cape Cod is not so much a place for traditionalism as a victim of the beautiful and impatient earth.

The Dead and the Living

A cautious solemnity is beginning to take hold, although the weather plays new tricks as it alternates between the influences of north and south, east and west. Rain pours over the land. Then, on a warm day, there is thunder and lightning at noon, succeeded by a furious northwest wind after dark, bringing in a deeper cold. The wind hums and roars during the night, and with the sky clear and the stars out, the Cape has a new swept and running feel to it.

On a night of full moonlight, there are glassy shadows between the trees, with a dry surf of air; and if sight brings sound, almost tinkling beams of light from the low moon. New stations, new harmonies of cold are suggested by stiff trees on their low hills and hummocks, standing against persimmon and topaz sunsets, or by a crystal edge on the sunlight.

We have had light frosts, but by the end of the month no consistent, freezing weather has been reached. Then on the thirtieth the temperature drops to 20 degrees. I notice a flower, Queen Anne's lace, still blooming, all by itself in a field of matted grass. During the night the surface of the ground is frozen hard . . . a cap of reality at last, with no more lingering. There is a genuine glittering clarity of cold, in cloud, and branch and stone. Out on the bay the low waves look as if they had a harder push and pull to make, imbued with new heaviness. A boy shows me the frozen body of a red-legged grasshopper, perfectly preserved for a little while by a power to which its only

adaptation is death. What still stands above ground now faces poverty, and primitive recalcitrance.

There is a kind of ice sludge being nudged in by the tides along the shore and through rippling purple waters of tidal inlets. There are ice circlets around the marsh grass. Thin ice sheets form at the rim of fresh-water ponds.

The inland world seems either subdued or facing survival's icy stare, and even self-sufficient human society looks ready to draw in and hole up for the winter. But since Cape Cod is surrounded by the sea, it has another depth, another range, where other populations roam while the rest of us wait and shiver. Above water, the more visible migrants are those wintering sea birds—auks, scoters, black ducks, eiders, old squaws, brant and Canada geese—that feed along the shore, in sheltered inlets, or in waters farther out, depending on their habit.

In my locality Canada geese and black ducks are swimming through peat-rooted grasses off Paine's Creek where the terns were fishing two months ago. A line of white-winged scoters flies low over the heaving waters of the bay. I watch two black ducks in the sky, approaching from the north. They are coming over at high speed downwind with wings beating hard. Then more ducks fly up across inlet and marsh, taking off to windward. They swing back for a short stretch, then up again, as if to hold position, like travelers reconnoitering, then fly on and out of sight.

Two miles or more from shore I see points of spray going up from the surface of the water, and above them many large white birds continually turning and diving, from a considerable height. These are the gannets, that appear off Cape waters in the autumn after they have nested on their island territories in the Gulf of St. Lawrence. The immature, first-year birds, which can also be seen diving for fish, are almost totally black. They are usually not with us for long, since they pass to winter feeding grounds, which may be as far south as the Caribbean.

Anyone who has seen them crowding their nesting grounds on Bonaventure Island off the Gaspé Peninsula, will know, from

close observation, how spectacular these birds are. They allow tourists to come almost as close to them as chickens in a yard. Thousands of pairs nest at the top of high cliffs or along their ledges above the water, each with its established square foot or two of nesting territory. A loud, rattling cry goes up, out of a multitude of hoarse croaks and groans. I felt a great sense of pressure and establishment in this bird city, this singular society with its consistent behavior and ceremony. The pairs greet one another bowing, or with heads raised and the long thick bills fencing. Their stiff carved heads are always in motion, always in response to one another. It is a pressing, elaborate spectacle, ancient and authoritative.

Gannets are awkward landers. They come in stiffly and do a kind of top-heavy tumble when they hit the ground; but as ocean flyers they have no superiors. When I see them again silently gliding over the waters off the Cape, I greet them for their earth-honored mastery. At a distance they might be mistaken for herring gulls, but they are much larger, and their long black-ended wings are typical. When you see points of spray going up far out on the water, and white birds diving, you have unmistakably seen the gannets.

Earlier this month, during an easterly storm, with pouring, blinding, deafening wind and rain, a few gannets were flying close to the shore off Paine's Creek where the water was a little calmer and the atmosphere less overcast than farther out in the bay. The birds flew low, since the fish they were hunting were in shallow water and presumably close to the surface. On this stormy morning they flew in an almost leisurely way over the surface, flapping their wings and gliding. They would turn casually and dive, their wings half spread. Then they rose and flew steadily on with power and ease, their wings feeling the stiff wind, using it like the ancient professionals they were.

Now the north wind is blowing hard in the late afternoon. There are slate-gray cloud masses in the sky, with a steely light where the sun rays through, and the temperature has dropped

to about 40 degrees. Offshore over rocking, ponderous, gray waters, I can see the crowds of gannets following a shoal line in the distance. They catch the light from the sun when it strikes occasionally through the clouds, intensifying their whiteness and turning the water green. They seem to drift and turn continually, their arrowed bodies plummeting down, the splashes appearing against white bordered waves. As I walk inland the sun goes westward behind massive clouds and the gannets, far out, high and white, keep diving with exact abandon.

The intermittent sunlight wheels in to brighten the yellow grasses and make the sand sparkle. To the north it is as if the sky were moving down from its Arctic limits and announcing new themes, with iceberg clouds, and high walls of cold against which the sun strikes new fire, while the wind rushes down to make the message felt. A flock of sharp-tailed sparrows lands on the sand, the marsh-side of a dune. They fly up into the stiff, cold air, and then drop down into a small hollow for protection. They stay there for a while under the great force of wind and blown sand, not closely knit so much as spread out in what looks like a perilous unanimity. If one sparrow should stray even a foot away from the rest, in their over-all, though loose, pattern, I feel as if it must be irretrievably lost, blown off, and separated. That which holds the sharp-beaked, yellow-headed little birds together is in their senses. They intercommunicate as one flock and form. It is a control—as lightly manifested as the sparrows themselves, but as powerful as the elements against which they stand.

December

An Old Place, an Old Man

When the feel of winter comes, in November or early December—though by astronomical calculation winter does not start until December twenty-second—when the first hard seal is set on the ground, and we are settled in with a new plainness, then it is not difficult to bring back yesterday and its country living. Winter's role in the year's wheel is an arresting, for the sake of renewal, a sleep, or half sleep, for later waking. It has its own suspense and violence, its roars and silences, like the other seasons, but in general its order is of a different quality, having an inwardness and resistance, a bare, gray need to keep things inside and hidden down. This is the time of year that shows a plain connection between human beings and their land.

I see last leaves whipping around the hollows off an old Cape road, or walk through the now more oblique rays of the sun that yellow the sandy ground held by thin, waving grasses, gray beach plum or bayberry bushes, and I recognize what has been left behind.

Here, surrounded by open slopes, is an abandoned house site, now a cellar hole, walled by square blocks of glacial granite. Orchard grass, timothy, and redtop still engage the old domesticity. Inside their circle you can see where children played, water was fetched and carried, chickens fed, and voices raised. There are yucca plants close to the foundations, and a rose or two. I transplanted such a rose a few years ago, and with added nourishment it turned from a slight, single-petaled flower to a great bunch of pinkish-purple fragrance.

Unlike some abandoned farm sites in other parts of New England, there is nothing left here to show what the inhabitants did. There are no harrows, stone bolts, yokes, or farm implements, not even any pots and pans. The stones are left, and the faithful grasses, and beyond them the crunchy, gray deer moss, and beard grass of indigenous fields. It was a small place, of bare subsistence. Whatever the qualities of the people who lived there, they left simplicity behind them. Not too far away, a bulldozer is making a desert with giant scoops, high-tension wires are marching by, and a plane rips the air overhead. We are encroaching in our oblivious fashion, without delay. The new domesticities may occupy only a tenth of an acre each, but they engage all lands. The old domestic wildness cannot be replaced. It was a lodgment limited by need, gray outside and dark within, perhaps unbearably close and confined at times, but with a knowledge of its earth.

It seems to me that as the world has grown outward in recent years, even I, a comparative newcomer to Cape Cod, have lost some local life to memory. When you live in a place for the first time you see behind it to its roots and grain, before the storms of circumstance blow you away from it. I remember a few old men who seemed so representative of the old Cape that it will never be the same now that they are gone. The loss is of a country speech, the flavor of a flesh and blood nurtured on locality. What has replaced them can be defined in terms of California as well as Cape Cod, which means no detriment to either, for what we are now obliged to consider is locality in a wider field. But those old men were born as we may not yet be born, sturdily, in custom and resignation.

Nathan Black died in October 1957, at the age of ninety-two. He was born in 1865, the year Abraham Lincoln was assassinated. He was a near neighbor. His land abutted mine, and since he was the proprietor of the Black Hills Barber Shop, I could walk down through the woods to get my hair cut, for the price, in a trillion-dollar world, of fifty cents. He was a heavy man, with bright

brown eyes, and a head of curly white hair. He fitted the open Cape Cod weather, or the weather fitted him. I am not sure of the distinction. Nearly ninety years of change, of natural cataclysm, of both peace and abysmal war in the human world, had left him in the same place, with the same measure, outwardly at least, of stability.

When he left his place, or the customary orbit of work and old friends that constituted his life, perhaps to drive out on a new highway or to the chain store, he may never have stopped being surprised. I remember his looking at me with a kind of amused questioning—but no alarm—and saying something about no one belonging here any more. The new population didn't quite make sense to him.

In the way of old countrymen who knew their boundaries, he was tough and unforgiving in his role of landowner. He had his rights, "By gawdy!" and he would know when someone did him wrong. He held on hard, and I suspect there were neighbors who felt the possessiveness too strongly, but this being none of my business, I will go in and get my hair cut.

The shop, with a tool shed under the same roof, where "Nate" used to grind knives and axes, stood, and still stands, across the yard from the house where he was born. There are some other gray-shingled, outlying buildings on both sides of a dirt road that runs through scrubby woods and hollows, dry hills sloping down to marshy bottom land . . . wood-lot country. One December day I rapped at the door, and he put his jacket on and walked across the yard with me, where two white ducks were parading and some red chickens giving the frozen ground a going over. The old man bent down a little and spoke to his dog Bonnie, a cream-colored spaniel, which had just wagged up to him: "Did you get it?"

Then, to me: "I lost an egg. Picked up five eggs, out of the hen yard this mornin', and came back with four. Maybe there was a hole in these old pants of mine."

The barber shop was small, long and narrow, but he had

a stove in there that kept it warm. There were some old magazines on a bench against the wall, with a black Homburg hat hanging on a peg. It had been given him by an old customer, a wealthy man who had lived on the Cape during the summer and had come in to have his hair cut for many years before he died. There was a photograph on the wall of the two of them with an inscription underneath that read: "Established 1884. A satisfied customer is our best advertisement." They were standing out in front of the shop, smiling in the sun.

"Feller came here yesterday and I had to clip him in the kitchen. Shop was too cold," Nate said.

The calm of the place was comforting. It came, I suppose, from an acceptance that emanated from him, and brought in many old friends, who would sit down to say: "Nate, just thought I'd come over and pass the time of day."

Whatever he had to say about other people never left them without the honor of human circumstances. "Pretty close, he is," he would say with a little laugh, or "I guess he had a shade on" (a Cape Cod expression for being drunk). "Guess you can't hold on to nothin'," he said about some local theft, in a way that insisted on not being roused beyond necessity.

His origins were out of a kind of history of which there was very little left intact except himself. He once showed me a tintype of his mother, a handsome girl named Bridget Malady, who had emigrated from Ireland in 1862. His father, Timothy Black, was born in Yarmouth, on the Cape. At the age of ten he signed on as a cook aboard the packet which sailed between East Dennis and Boston, and seems to have spent a good deal of his life on intermittent voyages at sea. He was also in the butchering and slaughtering business with his two sons. In the autumn they used to butcher eighty-five hogs or more, at the rate of three a day. And in some rough but related way, Timothy Black started his son in the barbering business. Nate remembered how his father used to cut his hair in the kitchen, long before the Black Hills emporium was established: "I used to sit there while he was

sort of pummeling at me on the back of the neck. By goll! I sure did cringe when he was chopping me with those women's scissors."

While I, seventy or eighty years later, was sitting in the barber's chair, getting more expert and calmer work done on me, I assembled a little of the past. In the nineteenth and early twentieth centuries an expedition to the post office or the store took up a large part of the day. That was the time when you could hitch the horse up to a post and stop for a long chat, "having the capacity to waste time" as I heard a Texan phrase it about some of his countrymen in the western part of the state. People walked between their houses—there are foot paths still showing—on barren hills. They had small herds of cows that foraged on the sloping fields. Families used to picnic together by the ponds, and there were barn dances on Saturday nights, which were sometimes the occasion for a rip-roaring fight. I have heard it said that Nate Black was the strongest fighter in the region, when outraged beyond his normal patience, but he would reveal none of this prowess to me.

The Black family also held dances in their kitchen. The father of the house played the violin. On such occasions they would have plum porridge suppers, or they served crackers, milk, and raisins, and sometimes hulled corn.

He was of a piece with his surroundings. I think of many things he talked about while I was having my hair cut and they all meant the gray, sea-girded land, and a human closeness to it. I think of the deer that ate his beans, of his duck that was carried off by a fox, of foxes being reduced in population by the mange, of a watering place for horses by Cedar Pond in East Dennis (a beautiful pond with ranks of dark cedars backing it up, and now being encroached upon by house lots); and he talked about the big eels waiting to eat young herrin' (or alewives) at the mouth of a pond, and of sounding the depths of Round Pond here in West Brewster.

And then there was his dog which had to be chained up because it got so wildly excited chasing rabbits through the woods

that it was constantly lost, having once been picked up nearly ten miles away; and the coon that climbed a tree after a hen; and his little granddaughter wanting to shine a flashlight through the window one night and take a picture of a coon she saw outdoors, because it was "such a pretty-looking animal."

There also come to mind the fishing boats all-over white with screaming gulls, that he once spoke about with real excitement, and, of course, the yearly work on his cranberry bogs . . . he and his tart and lively wife used to pick them together; and the shifting price of cranberries, and his wood lots, and who was after him to buy some of his land.

"Yes yes" he would say, in the Cape Cod fashion, and always, when a customer was leaving the shop: "Come again."

His wife Emily died two years before him. Some time before that I stopped to talk with him when he was scything the family plot in Red Top Cemetery, which lies at the junction of two country roads, on a little hill or high knoll up in the sky and the ocean winds. He told me two women had come up one day while he was there and said: "What a nice place!" He and his wife are buried there, in a place which has no more permanence than any other, but for them and by them had the simple power of acquaintance.



ROSE

ROSE MARGARET DAN

Night in the Afternoon

If I have left Nathan Black in the nineteenth century (although when I last saw him he was deeply involved with a television set) or at least in a tradition which no longer appears to sustain us, it is not to emphasize that all continuity is lost. He has left us transients to make what we can of the Cape Cod weather, without assistance, but the examples it still offers are both patient and surprising. Storms and stars never fail us.

The theme this month is a growing cold, but whether we are to have rain or snow, hard frosts, or comparative mildness is not known. If you listen to what people say about the weather you go from apprehension to apprehension. It is as though we were already working to keep our lives open until spring. I suspect that by March we get tired of comment. In any case it represents a communication with the forces around us, and I am not one to disparage such banalities.

"Good morning." "What's good about it?" Dead oak leaves hang like wet rags in the cold rain. After the rain stops there is a cold moisture suspended in the air with its own whiteness. There is a silence everywhere, except for a chickadee's harsh split trills nearby, the low tone of offshore waters, and the indiscriminate sound of engines on roads or in the sky. The woodchuck, the box turtle, and the chipmunk are asleep. There are no insects above ground to catch the eye. The day shortens, and we who are always calling for more sunshine, pleased at the idea of some perpetual, impossible comfort, are obliged to confront night in the afternoon. Life is quiet, stripped of redundancy. There is a

new restraint about our depopulated local world, and at the same time new openings afforded. At least the season seems to offer another quality for interpretation. Perhaps, for example, because the trees are bare and the ground devitalized, we are to look up and find the sky.

I come home one night under vast black reaches full of stars, almost as thick as wet snowflakes. It is very still around me, a cold stillness through the ground, but overhead the infinite dome almost resounds. It is blazing, bounding, soaring with the means and light of existence. I am not troubled at all that I look out from an unimportant planet dependent on a common star, and am only able to see a few light-years away, each light-year being a distance of six million million miles. There is sight past sight. The strongest telescope is still an extension of the human eye. Our measurements themselves are a form of participation in that fantastic distance, which may not make us any less lonely, but we have a mind in space; and since men calculate, by observation of the heavens and of their earth, that the laws of life are the same as far and farther than they can see, then they have hearts and blood there too. I stand here on the cold ground, and take sensual note of the universe.

Then I move back into my domestic hole to do a little hibernating of my own. A winter withdrawal sets in, when outer resources escape me. I am drawn inward to human want and its frustrations, to common egotism or inertia. The December days progress almost remotely. Who cares about the secrets of that cold and darkening earth outside? Our problems are sufficient unto themselves.

But there is a natural complex of greed, a provision for appetite, that brings men and earth to mutuality. Manifested by the weather, it sometimes puts us out of doors to understand real fortitude. Instead of easing on toward January, December begins to tug and roar. It snows all day and there are north winds of from thirty to forty miles an hour driving the snow against our houses, suggesting an extra struggle we might not be quite

ready for. Then it warms up to 2 or 4 degrees above freezing, and the following morning begins with a cold rain and sleet falling down with hissing, disheartening force. The temperature drops. The sleet turns to snow, driving in violently from the north, hitting the trees like bullets. The sky closes in. There is no horizon. The wind swirls. Trees rock and bend. This is a storm with a great rush of savagery, setting wild, grim traps for the unprotected. "Now," it says, "I have you. Try some adventures in this."

There is ice or cemented snow along the tree trunks in the direction of the storm, so that by sight and feel I know the wind is from the northeast quarter, without need of instruments. My hand tells me where the present power is coming from.

When the snow and wind let up a little, I head for the shore and find signs down, gutters yanked out, and telegraph wires dangling across the road. Salt water ahead of me is churning, tossing white spume against the open shore, while the wind seethes, whines, and howls with growing intensity. The feeling of conflict is everywhere around me—a hurling and letting go, a bend and give, a clash, a holding against insufferable strain. The sand on the upper beach is whipped into stinging strength. The sea is almost boiling, its racing, conflicting edges spray-lined. On top of an exceptionally high tide, great waves run in over a sheltered inlet, sending their combers farther toward the land. All points of contact and withdrawal, rise and fall, seem to be concentrated in this monumental turbulence, a force that is almost uncontained. Is it a replica in violence of the normally unseen stresses and strains lying under a peaceful season, or a life? Our bodies are made of air and salt water, in their components of hydrogen and oxygen, carbon and nitrogen. A storm should be our organic companion. But this cold screaming fury makes me take refuge behind a wall. Man may have overcome the elements, but not his elemental frailty.

Out over the gray and white waters, hovering against the

wind in an almost idle way, are several herring gulls. And, at the mouth of the inlet, riding calmly on the roaring, running tide, facing up against a thirty-five-mile-an-hour wind, is a loon—close-reefed, well fitted in all respects to weather the worst.

Two Encounters

After the storm a hard cold sets in for many days. As a rule our Decembers are comparatively mild, with the days alternating between light rain and cool sunshine. Now the very great plunges of the cold, driving the frost deep into the ground, freezing the pond waters, starting a rim of pack ice around Cape Cod Bay, comes as a surprise, something not known before. The weather bureau, explaining the cold as being the result of a vast Canadian high-pressure system, speaks of its unusual "fetch and intensity." Ten degrees above zero is not severe as compared with conditions in other parts of the world, but this unseasonal extreme is a local reminder of the earth's potential, and just how much we depend on the normal rhythms of the year. We gasp with cold, turn up the heat, and think that cataclysm is a small thing to the universe.

The cold around us creates a different earth. It demands a readjustment of the senses, as though it were ready with amazing new suggestions. One sharply cold morning when snow lies fresh on the ground I stop by the cemetery where the Blacks are buried, on my way to town. There is something about this day that asks attention. It sings. Pure crystalline masses creak underfoot. The tune of the cold finds an edge on my bones. Pines, stiff cedars, locust trees, hard ground and stone, all share in resonance, being forged and tempered by the cold. The little graveyard hill is a tympanum, or sounding board, very highly pitched, so powerfully taut, being plucked very lightly by the air with sharp whispers and twanging sounds being sent across the

snow, that it might be ready to send one chord, incomparably new, into the whole sky.

I start to go away, but a tiny, almost casual trill separates itself from the vibrations of the cold. I keep listening and in a few seconds see a bird rounding the branch of a cedar tree, not twenty feet away. Working in and out of the branches, coming in to view and then disappearing again, is a flock of purple finches, eating cedar berries. The males are washed with a raspberry color that keeps appearing through the dark green masses of the tree like intermittent lights, hints of fruitfulness in the winter's containment.

Suddenly, surprisingly, a light brown, speckled veery appears on the open branch of a locust. This summer bird, out in the glittering cold, seems to have a startled, wildly timid look in its eyes. Its slim body hesitates, with the problem of aloneness perhaps, or direction, or food in this white earth that has cut so cruelly into its subsistence. Then it flies off into a wood of pitch pines, and I hear a low sound, the mere snatch of a thrush's warbling.

Just by stopping for ten minutes instead of hurrying on, I have been put into a new relation with the morning, and have seen a singularity and sacredness to all its parts. It could happen in Moscow or New York.

A day or two later I am in the city, just before Christmas, when the stores are rushed and jammed with shoppers. It is late afternoon and yellow lights flood out of great glass windows and crowded doors. There is a tinkling of bells, cups, and tambourines, a tooting of horns through the general confused roaring of the streets. Just as I pass a huge department store, I hear an odd, disassociated center of pipings and cries. I can connect it with none of the turmoil around me.

I stand and listen. There, across the street, like a theatrical backdrop, is an abandoned brownstone building, four or five stories high, with a grimy, ponderous façade. It is covered with ledges and its dark, empty windows reflect the pond-dark evening

skies . . . every now and then a white cloud moves across them with disembodied calm. On the ledges are hundreds of starlings, pushing, crowding, hopping, flying up against the windows, perched all along the heavy front of the building—dingy birds, with their lost Christmas cries. There they are, adapted almost domestically to man's world, tough in a way that a purple finch or a veery cannot be, but still a race apart.

Then I am back down the street again with my own tribe that teems with general might and inner purposes of its own, going and returning—out continually—representatives of a force of mind that can gauge the mechanics of the universe, and in animal power overrunning the earth. I see in these shoppers an evolutionary line of vision never satisfied, a history of cities, ledges of light running to unknown futures. The world is in the hands of these omnipresent and familiar beings, the young and the old, black-haired, brown, yellow, or gray, in the indefinite shapes and interchanges of their lives—the human race hurrying through its own lighted ways. And if I shouted: "Stop! Look away from yourselves. Consider the starlings!" with what sort of mild madness would I be credited?

January

Exposure

It is said that winter, being the season when the sun shines on us obliquely, is a period of death, or, as the dictionary puts it, of "dreariness, old age and decay." We are being deprived of a portion of original energy, and recognize occasionally that if we were out far enough, in as extreme and bare a relationship to the cold as the birds, but without their equivalent in insulation, we would have a hard time surviving (though birds are also perishable and have their share of disease and death from starvation). But we take care of ourselves, in such an elaborate and consuming way, that the grand extremes of weather may only succeed in being a nuisance. The freezing weather deepens this month, after a few days of moderate warmth at the start, and I am free to complain about the heat bills. The car skids and turns a half circle on the highway, which is covered with glare ice one morning, and I am afraid, not for myself so much as for my new car. How could I manage that ten miles back without it? Self-protection may be all that winter means to us, though it is a term that can only be comparative in an age of manufactured violence.

Suddenly there is a tremendous thud above us that jars and rocks the house. It seems to tug at the vitals of the earth and would cause us more than mere shock if we were not aware that it is a plane breaking the sound barrier, thousands of feet in the air. A minute or two later I hear a familiar gabbling, a mixed bugling, overhead, and run out to see twenty Canada geese, hurrying fast down the north wind in four separate flocks

aligned in flight. With their long necks stretched out and strong wings beating they are fleeing for their lives, frightened up from winter feeding grounds along the shores of Cape Cod Bay. The earth, for the time being at least, is committed to mankind. The geese cannot so frighten *us*. They are innocent of ways to "control their environment."

Then there is almost complete silence again, and I understand what is meant by the "dead of winter." Under the cold blue stare of the sky nothing seems to be happening. Each sound—a crow cawing, a car on the road, the rustle and clink of a clump of dead oak leaves—is by itself, occupying wide, unpopulated plains. Without the wind, the air too presses on me, with a cold weight. I walk through its depths, feeling it against my face, and suddenly realize that limited sea of oxygen in which we live, this side of outer space and its violet darkness.

This silence may be just as alarming to some people as a "sonic boom." Nothing seems to be going on. There is an intensity of rest. The demand for something new is unsatisfied. There are men who stray into nature from a city's booming, reassuring hive, and are frightened by being caught in necessity—one of the year's cold, unspeaking tides. Perhaps they also recognize how much the sun provides us with other than pleasant company. There is a winter in us from which we will not soon escape into warmth and joy.

Still, this frozen land contributes to a global art. It is cold and silent here because it is hot and loud in India. And how can we spread our wings without a knowledge of deprivation? While I am closed in I know there are redstarts wintering in Mexico and arctic terns in the Antarctic, and when I greet them on their return it will not be only because they have come home (a bird's nest is not a house but a platform from which to start) but because home comprises so large an area. Some birds, if they survive their first year, will reappear in the vicinity of the place where they were reared. So will salmon, shad, and alewives, returning to their parent stream after years of absence. We are conscious

of the great amount of space their journeying requires. Species of fish or birds show great variation in the extent of their migrations, and the whole pattern is wider than a continent. Their movements are not only consistent with periodic motions of climate, weather, the tides, but may be visible evidence of earth changes that go back for incredible lengths of time. They require an unrestricted measure for their lives and deaths. Men alter, restrict, or use up, to suit their needs and fancy. Then they move elsewhere. I see that one of the young men who has been designated for training in space flight, an "Astronaut," says he accepted the challenge of being sent aloft in a capsule because we were "running out of interesting things to do down here." The destruction and denial of earth's resources must have gone farther than we realize. But the life journeys continue, from one sunny round to another, over the earth and its wide-ranging waters. How much we must be missing, even in the wintertime!

Before dawn, after the windless day, the temperature drops to 10 degrees. A wallowing, tugging, brutal wind sets in. The frost so rigidifies the needles of the pines, burning into their cells, that they look dark and scorched. I feel as if the rigid and dizzy earth were being kicked around, rocked like a topheavy boat—the trees its masts. The wind cries: "Remember poverty!" and I go gasping for breath through the fierce air, feeling as perishable as a moth. We may be having the mere taste of an extreme, but this penury weather is huge and mighty all the same. It is the result of a Labrador storm one thousand to two thousand miles in extent. Its balanced fury tests all it meets.

On this kind of day I am an inland lover. To be wind-cut and sandblasted serves no good human end. As if in general proof of that, I meet no more than a car or two on the highway, and see no one on the streets of the town. The shore is desolate, hissing with driven sand. On the surface the bay waters in the distance are being stiff-armed and flung away. New ice, morose and slow, is nudged by an outgoing tide in the inlet at Paine's Creek. Gulls drift slowly upwind like clouds. And on the wide

tidal flats—the searing, biting, turbulent grounds—groups of Canada geese are stalking through shallow purple waters that reach, wind-scudded, over shoals of peat. Then a new group wheels in low and settles down with the rest. I can hear their honking under the sound of wind and sand. Beyond them, in steely waters speckled green, is a small flock of black ducks.

This is no inanimate landscape. Under the given power, the abandon of the wind, the restrictiveness of the cold, is still an all-containing balance. I listen to those famous travelers the geese as they communicate and am taken a little further out on violent and unreceptive grounds, past my own shivering.

Inland again, listening, taking shelter in the lee of the wind, just as a rabbit jumps away from me and runs under a tangle of bull briar, I am conscious of all the unseen hiding and endurance around me. What else moves here, beside the wind that suddenly rushes in and roars so loud that it makes the trees groan and the large round clouds hurry on? The trees, swaying and creaking, are the most obvious, the most exposed. They are half dead, rigid, hard, inert. The sap coagulates in the extreme cold. I cut a twig with my knife and the pitch is dark and frozen. The trees in their containment, adapted to less water and light, getting scarcely any nutriment, are able to make their stand in the open while other lives must hide.

In the late afternoon the ground stirs harshly. Leaves run in dead abandon. The wind seems to sound a burst of doom, and then seethes in lively rage. A dead limb cracks. I am on the trigger edge of ultimate need. Blue-gray clouds hang over the shaking fingers of the trees. There is a collective power that flays us all, without discrimination.

The shadows have left the earth. Light stays in the sky, and then begins to go. There are rims of pale electric light in the west. Long cloud shoals, now white and pearly gray, stand against wide bands of blue and mauve and pink, like the baked desert cliffs of the Southwest. Finally, and I feel all finality, as the ringing air sheds down enormous heavy cold, received numbly by the

earth, the sky turns a startling gemlike blue. We are turned into night. The sky's mineral beauty shifts to pure blackness lighted by the stars. There is an almost shrilling intensity in the air above the earth-binding wind, and I am conscious of nothing but height, height beyond reach.

Ice on the Ponds

The air is crystalline and the sunlight through the pitch pine needles gives them a glassy sheen. This is one of those rare times when almost all of Cape Cod's innumerable ponds are iced over and the children can go skating after school. It has been consistently cold for weeks, with comparatively little snow, and the pond surfaces tempt all skaters to soar.

But we have had a day and a half of thawing weather. When my young daughter and I go to a pond to skate, we hear its fine whomping sound as it expands under the sun's warmth. What looks like jagged broken bits of crystal, catching light on the surface, turn out to be part of the ice structure, thawing ice refrozen. We find hundreds of water spiders frozen in around the edge where yesterday they had been brought out into the water by rain and comparative warmth, and on the way we found a dead worm on top of frozen ground. So some animals are flung around with the season and respond fatally to chance. They belong to an allowance left over from December. Then it ends, and the day hardens like the ice. It is as though the helpless were not to be allowed their helplessness for some time to come.

To skate on a long stretch of unmarked ice, over green reflected clouds, with the sound of clear air swishing past your face, is to voyage, full sail. It is a shining freedom, and our only competition is in play, to skid and turn and rush like water birds in the springtime—the only hardship a bruising fall. Under black holes we can see down to the bottom of the pond, where there are little forests of green moss and water plants, very still and soft. Sud-

denly a diving beetle swims quickly and erratically across and then a slow tadpole moves into sight. There is enough sun-induced warmth in the shallow water at the pond's edge to allow life more play, though in that respect a pond is easier on its inhabitants than the land. With its cover of ice it is now in a state of "winter stagnation." There are frogs buried in the mud and fish moving sluggishly in cold, stabilized waters. But this is an environment which always allows activity in at least some of its inhabitants throughout the year. Its extremes and revolutions of temperature bear little comparison with those of the land. Our hazards are of a sterner kind.

When we kneel on the ice, where the mobile sky is reflected, and look down in, the water world seems half awake and half asleep, half tropical and half glacial. The waters are almost motionless over intermittent green carpets and through their black depths. The whole being of the pond seems to move independently of our surface storms. It has a heart of its own.

The winter land is a harder environment, though we sometimes make more of its rigidity than we need to. At the pond's edge I brush past a bayberry bush, and its dried, dark gray berries smell as pungently and herbaceously as they did when ripe—waxen and pewter colored—in the fall. There are checkerberry or partridgeberry plants rimming the pond. In fact they grow well through the acid earth of these woodlands, and their shiny leaves stay green throughout the winter. They are also called winter-green, or mountain tea, and their leaves taste spicy and aromatic. Are we still common enough to make new names instead of numbers, implying that familiarity, touch, and association have not been left behind?

You know the checkerberry, hugging the ground with shiny, flavored leaves, tiny bell-like flowers pure white in the late spring, bright red berries in the autumn. Something to say hello to, and not merely to recognize as *Gaultheria procumbens* and pass by. To name means to know, love—perhaps even to laugh at. The fact that the checkerberry has so many other common names is a hu-

man distinction. Consider: grouseberry, spiceberry, oneberry, chicken-berry, deerberry, groundberry, hillberry, ivyberry, boxberry, teaberry, greenberry, ivy-plum, chinks, drunkards, red pollen, rapper-dandies, wax cluster, redberry tea, Canadian tea. They dance in friendship. I have been told that the name "Drunkards" comes from the use of checkerberry tea as a remedy for a hangover, but am unable to corroborate it.

While I am pulling off my skates and chewing on a spicy leaf, a trim, round little chickadee comes within four feet of me and twitters and scolds. Then two warier golden-crowned kinglets show up suddenly in a nearby shrub, crying: "Tseet! Tseet!" and flit away. We climb up the steep sides of the pond and face the slopes toward the north. Bold gusts of wind strike us. Stiff briars and branches whip us as we walk along a narrow path, and the play of winter sunlight through the clouds goes lively across the grasses and through the gray trees.

Contrast and Response

January seems grim and contained. This is not the time to expect life to declare itself. Even local human circumstances are such as to prove a kind of gray waiting. While the rest of the world retires in Florida, counts change in New York, or struggles with vast new shifts and divided aims, Cape Cod stays down, and holds on. The population is five times less than that of the summer. It is the barren, exposed peninsula it used to be, with the exception of the new woodlands and all the cottages. We are linked by highway and modern communicatory apparatus with the rest of the continent, but in this season there is a feeling of diminished wants. The human pulse begins to rise in April or May, when people paint and refurbish their motels and cottages in preparation for the great migration of vacationists. Now the economy subsists more on expectation than fulfillment. The human squirrels have stored away their acorns. The forage is thin in January for all inhabitants.

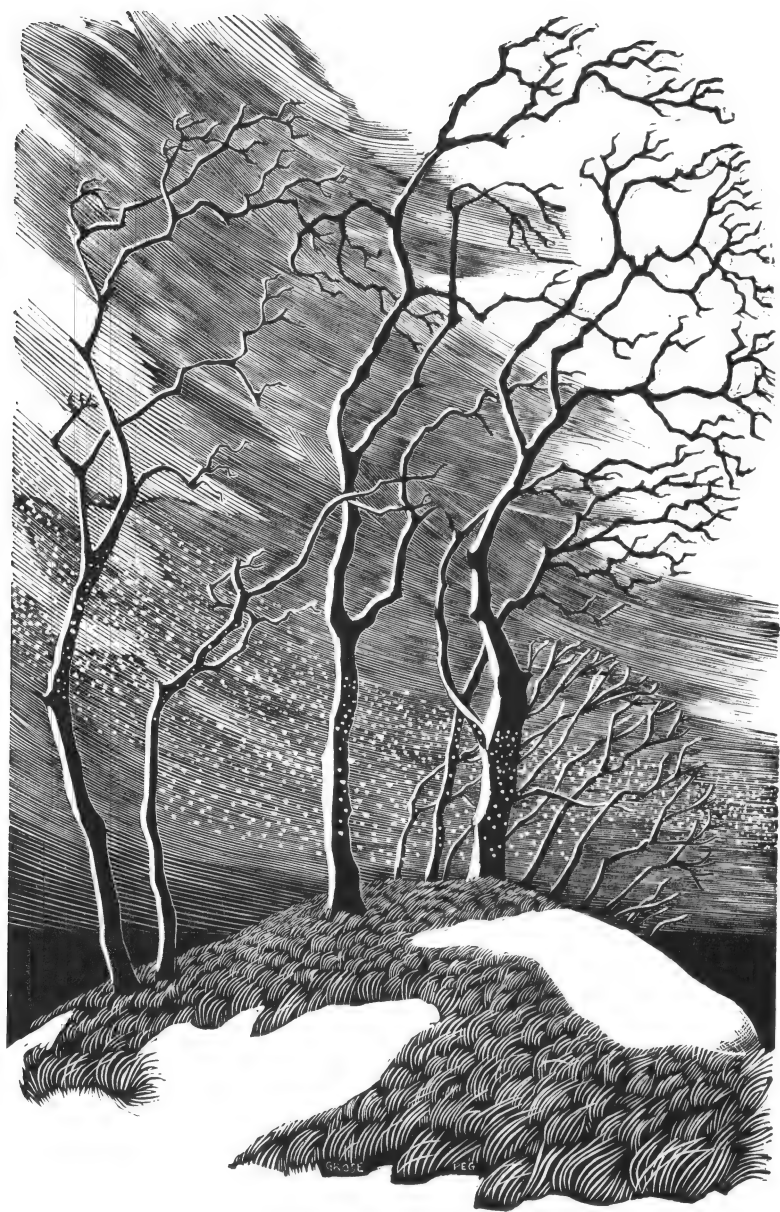
The weather roams still, with our surrounding waters. Why live here but for the reason that there is always an element of sufficient grandeur? Although the sea might not be visible for the motels and trailers before your eyes, a few miles, or a few yards, brings its untouched enormity into view. The sky is wide, and the ocean waters are still breathing loud or low with fruitful magnitude. They are at the end of every road. And when the foghorn bawls from Chatham like a lost cow, we know that there are still headlands and ships, the uncalculated and the unknown.

On the Cape's south side, facing the heavy Atlantic swells and

breakers, the high cliffs are often covered with miniature scrub oak forests, or thickets—they are scarcely more than two feet high, as well as stunted pitch pine with a mustard tinge to their needles. Dark clumps of hudsonia, a heath, resembling heather, cover the hollows and slopes, the billowing mounds on cliff tops above the beach. The vegetation lies low against wind and salt spray. It looks rusty and tormented. On the steep slopes to the beach there are milky films of snow, and then patches of white foam at the bottom. The surf roars in, sidling with great licks and washes along the sands.

The sea beyond is full of long waves that take the low sunlight of late afternoon and swoop and fall with it. They come in from the distance and then rise as they approach the shore, showing their marbled, curved surfaces, to pause at the crest and plunge down. A stiff north wind holds them back a little. Manes of spray whip back at their cresting and when they fall the spray rises up almost vertically. Just inshore, where the breakers fling in their prows along the sloping beach, the waters foam with constant movement, in and out, all bubbling and shifting with a turbulent milk, whose surface looks opalescent—colors of blue, green, and pink bordered by heavy pearl. And what a sound! A thundering, a loud fermentation, with an occasional great soft clash of waves like cymbals, the long surf roaming and lunging in the evening light for miles and miles. From where I stand on the cliff top I can see a little group of men and children jumping and throwing sticks and stones into the surf. They run back and forth with its rhythm, playing touch and go with it, running to keep warm in the wind, playing as if they had to, dancing for the surf's thunder. They laugh, shout, hurl driftwood into it. They jump and wave their arms as the water reflects their images, just on the fringe of an immense, terrible beauty, responding with an antic kind of love.

The sea provides a cold, unfathomed latitude in the tightness of January. On land too there is a kind of under-rhythm of things allowed, or rather a special winter pace and timing, each life with



its relation to the cold. The thin light and air seem to define the leeway. Thick snow showers slant in. Sky, hills, and shore are blotted out. There is nothing to be seen but the naked trees, the oak leaves like tattered old flags holding against the wind that kicks the flakes ahead. The storm abates into gusts, and occasional sweeps of snow with blue patches blown clear in the sky. At each advent of this blue clarity, with sharp spun strands of light coming in from the sun, the birds respond. Snow swirls. Wind seethes. There is nothing to be seen but a tree sparrow or a chickadee at the bird feeder. Then the blue patches show again and the earth clears to vision. A flock of juncos fly in, or a blue jay glides through; a red-tailed hawk screams in the sky. It is as if they were all puppets dancing for their master light.

Special response is as much a part of winter as extreme reaction or withdrawal. I see this in the birds. I hear it in the yawing creaks of a pine, in dead leaf stir, wind speech, in their collaboration. I feel it in the quality of the season, its rigid shocks, its holding hard and letting go, its suspense and trigger edges, the obedience it calls for, the inertness and tight compliance.

Within the temperature range permitted it, life now shows many hairbreadth balances. Some marine animals "deactivate" during the winter—the equivalent of that coma and lowered metabolism which is called hibernation in the woodchuck or the chipmunk. If no ice blocks are in the way, and I can walk out over the offshore flats, I find periwinkles still holding on to rocks or driftwood, but obviously slowed down almost to a stop. On the other hand, common rock barnacles breed during the winter months as far north as Delaware and New Jersey, sending out eggs which will hatch in cold sea water into free-swimming larvae. And there is a red crab in Boston Harbor which stays active throughout the winter.

When it gets abnormally cold, shellfish "supercool." They have a freezing nucleus and will survive if not suddenly jarred.

Adaptation to ranges in temperature varies enormously. Some plants and animals die when the temperature drops beyond

a certain point, and others when they are released too quickly from freezing temperatures. Some animals avoid the cold by migrating, or they are able by specialized habits to eat and survive as permanent residents.

The conditions of life in its natural environment, whether land or water, vary from place to place, although the sea, for example, is less extreme and difficult than is the land. Such conditions may show dramatic contrasts in areas that are fairly close together. Because of the influence of the Labrador Current, the waters to the north of Cape Cod are colder than those to the south, where they are influenced by the Gulf Stream. As a result, there are some species of marine invertebrates which exist on one side of the Cape but not the other.

The frog, a cold-blooded animal whose tissues approximate the temperature around it, lies in the cold mud, sometimes in blocks of ice, an intrinsic part of winter. The blue jay, on the other hand, is less helpless, and is able to forage above the ice and snow. Like man, it has an internal temperature of its own, regardless of the weather; although man is without the insulation of feathers or fur. A thing apart, I run to my house, my city, the tunnels of my society, in order to escape the cold. I wonder, though, whether this mental animal, a great experiment in complexity, is not as perilously balanced as any simple organism, a mussel or a clam, in the extremes of temperature and environment.

February

Secrets in the Open

Rain comes, heavy, cold, inert. Dirt roads begin to turn to mud. Then the vice tightens again. Below freezing temperatures take hold, putting a new strain on plants and trees lately thawed. It is not steady, continuous cold that now threatens life, but the shifts between freezing and thawing—alternates in the caprices of energy. We are not allowed to open our pores and eyes too much, lest we be taken unawares, stopped as we try to start again.

I am hungry for release from winter's power. I imagine, hopefully, that the buds on the oak trees are a little fatter and the pine needles greener. If everything is ready to bloom when permitted, I am ready to say the word. But in fact the earth turns, and there has been a gradual increase in daylight for two months. The skunk cabbage has already reacted. The conical tips of its buds are pushing through frozen ground, showing that all life is not confined to pumping hearts. The ferment goes on in many ways, although the imperturbable action of a skunk cabbage, following the global year's own pace, is not something to give me as much cheer as a blue bird's song.

Zero and subzero weather is unfamiliar on the Cape and when it comes it feels incalculably cold. It is face-burning, dry, and piercing. Icy, crackling abysses hang in the air. There is a fire in a neighboring town. A small clothing store has caught fire in the early morning when the proprietor was away. Leaden gray smoke lifts above it through heavy walls and winds of cold into the sky. A small crowd gathers on the other side of the street. They stamp hard, hold on to their ears, and watch the fire truck hurling tons of

water into the black interior of the store, a little yellow frame building with nothing left to it but its name—the letters still showing on a dirty sign above the door.

A stove caused it, they say. They wonder whether the man had any insurance. Was this all he had? They watch in sympathy. They walk away saying: "Who cares!" They laugh, and as the fires show signs of going out, they cry for more. What is there in us that cries out for disaster and responds so readily to accidents?

I hear brutality and kindness, all in the same crowd, cold laughter and silent sympathy. Here are our meetings, all in the one extreme of a winter day, showing the allowances and shifts in human weather . . . hidden fires almost seen.

In a day's time the great cold is gone. Frost still lies deep in the ground. The twigs of shrubs and trees shiver wildly and delicately. The sun strikes us more directly. It sheathes the tree tops and a running slate-blue sea, and the day seems more open, receptive to that release I look for; but there might be a magic there that will pass before I find it. I spend as much time stumbling as in discovery, stumbling over debris, cans, and broken glass, like this stretch of drab ground just off the highway, bordering a salt marsh. It has the grim look of scalped ground, having been robbed of its topsoil. The only life is a starling, perched on a bare sumac. At the edge of the marsh I clamber over colorless litter, logs, branches, piles of thatch shoved in and rocked by the tides. Things seem tediously dead.

Something says stand and wait, look out and over; and when I do life stirs, assembles, and flies. The yellow marsh grasses sway beyond me. Ice shines white in the drainage ditches. A flicker, sun loaded, flies over to the far side. Tall dry reeds rattle together.

In silence, a female purple finch lands on a tree facing the wind, its breast shining in the light. I hear the dry "tik" of a myrtle warbler. Then a chickadee swings and loops out of a wind-washed pitch pine above me.

Through the thickets of alder, shad, blueberry, and sumac on the surrounding banks, I become aware of a sweet spring voice,

then of small singings here and there, and when I follow them up I realize they come from the shrubs themselves. Twigs rustle and touch. Gray branches out of frozen ground sing in contact. Even the marsh reeds make occasional sharp, squeaking twangs. There is no melody among the birds. A robin, although it is as red as it will ever be in spring, and fatter, with feathers puffed out on the cold, flies to an alder bush, where a few dried berries are still hanging, to perch without a sound.

The music is there, though it may become louder and richer in a later context. Musical capacity is not confined to a few animals, or to spring and summer. Cold air and frost rehearse with plants as well, under the changing sun. The song of light is played in many ways.

The Sea in the Ground

It is on just such a day, when hope, interest, renewal seem to be afforded, though held in check, that I find other local residents—other people, other customs—that are not only in readiness, but blooming with color as though it were summertime. The temperature is barely at the freezing point. The air is bright and clear, and the top of the ground is played over by sunny warmth. In flowing fields that skirt the oaks, the reindeer moss, with many branches, perhaps suggestive of antlers (though it gets its name because it provides food for reindeer and musk oxen in the frozen tundras of the Arctic), is gray like dawn dew, or an almost luminous gray-green. Light nests of snow with sparkling hexagonal flakes rest between its curly fronds.

The reindeer moss is one of the lichens. A lichen, each separate plant, multitudes of which compose the visible growth, is a composite of a fungus and an alga, seen only through a microscope. The alga contains the coloring matter, or chlorophyll, and can therefore carry out the process of photosynthesis, manufacturing food with water and sunlight. The fungus, which has no such ability, wraps its threads around the alga, protects it from the sun, and stores the moisture for their partnership; and, if they are of the rock-growing variety, anchors them both securely.

The lichens are tough. They can endure extreme contrasts in temperature, and hang on in barren areas where other plants could not get a foothold. In fact, they are pioneers of millions of years' service. They prepared the way for all the changing elaboration of plants with leaves and stems that followed them, after they

had broken down bare rock with their acids, dissolved it, cracked it, and combined their own dead materials with the rock particles to form soil.

In these round-edged plates of lichen that cover rocks or tree trunks in the bare February woods, I see a life that is almost independent of the season. It goes beyond or behind our immediate knowledge of it into a kind of primal security, settling in where little else is possible.

The color of lichens is the color of the green algae of the sea and of fresh-water ponds. If their blue-grays, gray-greens, or yellows, bring up the cast-steel color of ocean barrens to my imagination, or green water lolling at the sand's edge, or underwater depths running with fish and shafts of light, there is knowledge to back me up. The progenitors of the lichens and their relatives the mosses—this richly green hair-capped moss that soaks up melting snow in the sunlight—were unicellular organisms that formed in the sea. The line is direct. The algae in lichens need water. Without it they would not be able to make food or reproduce.

(The blue-green algae, which as a species is abundant in both marine and fresh waters, as well as in the soil, has the ability of lichens to endure very difficult environments. It can exist in icy pools or hot springs. The latter extreme was brought home very forcibly to me not long ago in Nevada, when I saw this plant growing at the edge of a fissure from which hydrogen sulphide gas was puffing out. The algae was growing where steam condensed near the surface and must have been thriving in temperatures of nearly 200 degrees Fahrenheit.)

The color of our inland lichens and mosses changes with the rate of moisture. Reindeer moss withdraws in dry months as a method of coping with a disadvantageous season, instead of trying to carry on an uncertain battle for existence. It shrinks, in other words, turning dry and crunchy underfoot, but in wet weather it absorbs, almost drinks up, water, and then turns spongelike and its color gleams more richly.

In the absence of leaves filtering the sunlight, the trunks of the larger oaks are dappled and spotted with these colors of watery origin. I say the larger oaks because the lichens once started may take a long time to spread. The golden lichen is a very slow-growing species, although there are many stone walls in this region that are covered with it. I have watched one spot of golden lichen for two years or more. No bigger than a fifty-cent piece, it grows on a stone step outside the house, and has hardly expanded at all.

So it is an enduring kind of fertility that shines here, as the gray sea waters rock in the distance. And when I turn over a log, or take up a handful of spongy oak leaf humus, half thawed in the sunlight, there is visible evidence of the life now arrested in the frozen soil. I find a millipede, curled up like the shell of a chambered nautilus. I hold it in my hand and keep breathing on it, until it comes to life and starts moving around, stretching out, its myriad legs moving with fantastic synchronization, ready to be busy again, traveling seriously with the given purpose of eating bits of leaves, breaking down organic matter in the earth. It is suggested that the millipede may have been one of the earliest animals to leave the ocean, where all life presumably began, and take to the land—one of those statements, of course, that leaves millions of years in the balance of human guesses, but gives me another approach to ageless tenacity in this ocean-bordered wood.

There is another ancient animal, the pill bug, damp bug, or armadillo, which I find in semihibernation in the middle of a rotten log. Pill bug because it can roll up into a perfect little ball; damp bug for its choice of environment; wood louse for its habitat and general appearance, although it is no louse but a crustacean, not an insect but related to brine shrimp, water fleas, lobsters and crabs. It is one of the few members of this family that have become adapted to life on land, but it retains a set of gills, or at least respiratory tubes with some functional equivalence to gills. It also retains an organic affinity for wetness, needing constant moisture in order to breathe, and will invariably direct itself to the

dampest environment it can find. One dry summer day I uncovered a bunch of wood lice way out in the middle of a dusty patch of ground that looked like a miniature desert. They had taken advantage of the only shelter available, an old fragment of a board that held some shade and moisture under it.

In terms of millions of years the development of millipede, or pill bug, becomes extremely complex and partly unknown. When did the pill bug leave the sea? How did its special breathing apparatus evolve? How, in other words, did it gradually adapt itself to life as a land animal? The problems of science are manifold. For an observer the very sense of a link between primal sea and primal earth embodied in this half-bug, half-marine crustacean, gives it great stature. There is thunder and depth in the pill bug.

I suddenly feel lost in a wood which does not speak of calendar days or the month of February, but endless projection and development.

Not lost too long—because the cold deepens and bites in the late afternoon and gray clouds begin to spread and darken, as a raw wind rises and shoves at the trees. I am caught again in the immediate. It feels like snow.

Need

Early next morning the snow begins to fall, thin and glassy, bringing in a new kind of quiet, unpredictable intent, spotting the thawed surface of the earth. After a few hours the flakes are heavier, and their momentum increases. They run down dizzily, with a ticking sound, shrouding the distance, pelting dead leaves, collecting in clumps between the needles of the pitch pines, coming down steadily and fast. The temperature drops quite suddenly, and the snow flakes grow lighter again. The wind sharpens, sending them ahead of it, lancing toward the south.

Hour after hour the snow collects with mesmerizing totality, and in the colder evening the wind drives in with great fury and drifts pile up. Dry snow whirls in and races around the windows, scouring them like a dust storm. The wind molds a long drift on the north side of the house, like flesh over bone, hip edge out and curving in, a woman's shape, an inanimate body molded by violence into classic beauty, hollowed, not for love unless the wind is love, carved, marked down and conquered by everything that is latent and unconquered in the storm.

For many days afterward the arctic air reigns over us, and the snow is crusted, blindingly white in the sun, a mortal danger to animals whose food supply it covers. A long sickle, a new moon, of ice begins to appear along the rim of Cape Cod Bay. There is crackling, grinding cold, in a day when we rise a little past the sun instead of ahead of it. The freezing nights, for some of the animals that have endured the winter so far, must be interminable, except for the rabbit, caught suddenly in the open by a great-horned owl.

I found what was left of it in the woods—a burst of little bits of fur in the snow; the owl's tracks; a mold left by the rabbit's body.

A hermit thrush dies of starvation, all its remnant food at winter's end cut off by the snow. It is pathetically light, held in the hand, and when it is dissected only the tiniest patches of red meat show on either side of the breast bone.

I find a dead eider duck on the shore. It may have been blown against a tree in the storm. One wing is broken, and the feathers buffed and thin from beating. After its feeding grounds are frozen over in an inlet farther down the Cape, a great blue heron dies on the snow-covered shores, wounding its neck in the last throes.

The bird feeder is crowded with intermittent flocks of chickadees, juncos, and sparrows, all the ever present winter birds, pecking at seed, flying off, hopping on the snow, each with intense, nervous, active habits, keeping their wild, interrelated ways, entering in, displacing each other, disappearing and returning. A bolt of a bird suddenly tears in from nowhere and all the little ones are gone in a burst. A sharp-shinned hawk, a small hawk with an appetite for songbirds, has attacked in hunger and desperation, but it swerves when it reaches the feeder—its aim disturbed by fear as it approaches the house—and crashes into the window. It sits on the snow, terribly stunned, its head drooping. The body is the light umber of an immature bird, the breast streaked red. After a few minutes it stirs a little, wing shoulders twitching, head up, and yellow eyes glaring with the pure wild look of a hawk. Finally it lifts up quickly and beats away toward a line of trees in the distance.

The chickadees are soon back, jumping down to the feeder from an overhanging pitch pine and bouncing back up like small puffs of snow, having left danger behind with their usual vibrant but sturdy acceptance. They are businesslike, determined little birds. If I could only get inside that head behind the tiny black eyes, and follow. I could swear it has the quickest perception of things. In any case it acts as if there were no time for leisure.

Its whole body is tripped constantly at a staccato rate. The head moves up, down, sideways, in the needs of sight and utility. It poises to hammer a seed held between its tiny black toes and claws. It rounds the branch of a pine, ready for the next find, wonderfully resourceful in the game of survival; with a serious intent, gay in action, employing every second with such thoroughness as to be completely careless of the outcome of life, and so perhaps to surpass it.

The mourning doves, whose low coos I mistook for an owl's when I first heard them, are another of our permanent residents, not often at the bird feeder, but fairly ready visitors when they overcome their initial fear. One flies in, wings whistling wildly, hesitates, turns back, makes another foray, then waits in a shad tree thirty feet away, head bobbing, eyes blinking against the sharp sunlight. When a mourning dove flies up it shows a blue in its generally buff-colored feathers like a blue evening mist after winter rain. It walks with pigeonlike head bobbing back and forth, its thin tail standing out behind a tear-shaped body like the shaft of a cart, then spreading round and wide at the tip when the bird flies off.

While the sturdy chickadees carry on business as usual, the dove, in gentle alarm, waits for an hour or two before hunger drives it back to stay and feed; and not long after that another dove flies in to join it.

On the south side of the Cape where the open Atlantic surf keeps the shore waters fairly free of ice, there are sea ducks, eiders, baldpates, mergansers, blacks, or scoters, flying over the sea, or settling down on its shifting surfaces. Tiny white buffleheads, which make ducking dives into the water, show brilliantly against gray ice on the banks of an inlet at Monomoy. A tornado-shaped formation of red-backed sandpipers stands over the gun-metal sea. Patterns of wings and water run together, while the land is still not broken out of its frozen gravity.

For life on land the power of the moment lies in a suspense which can kill. Another week of cold, with snow on the ground,

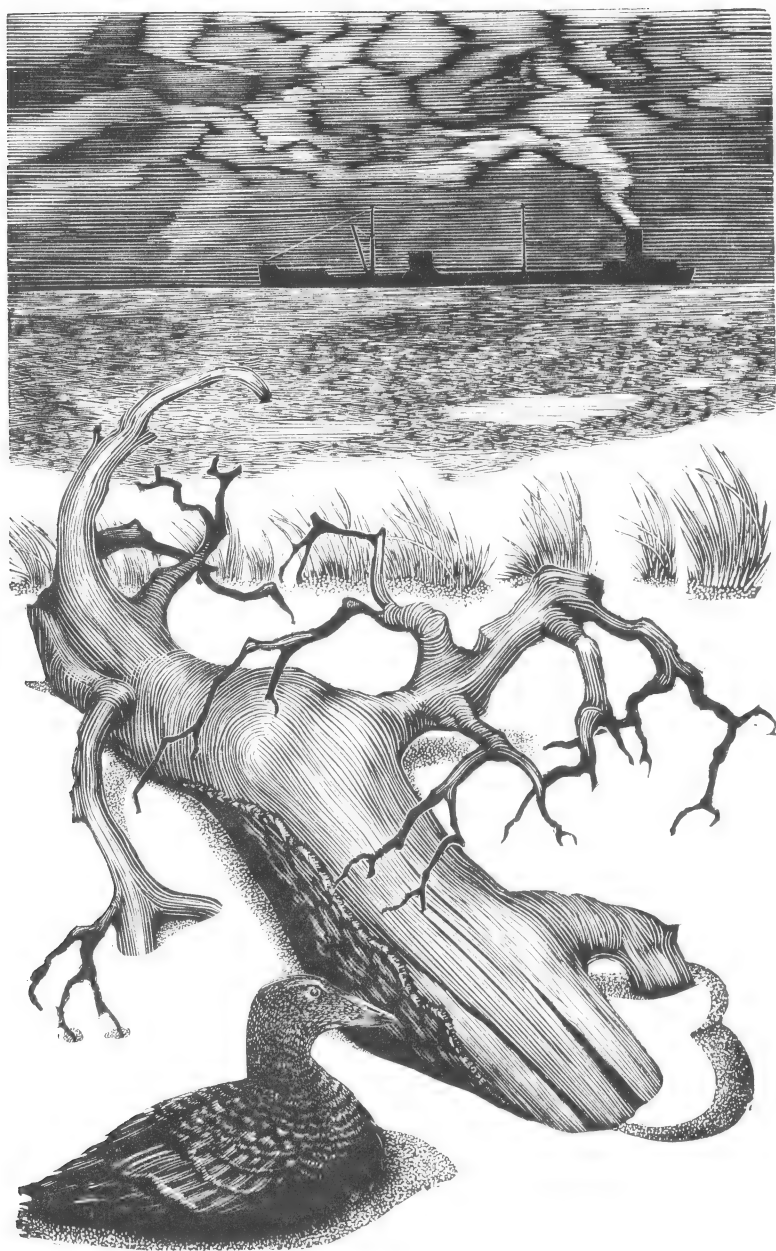
and many more birds will die. Because this Temperate Zone, influenced by oceanic weather, attracts more land birds than otherwise might stay, there is a greater margin of arbitrary risk. The weaker individuals will die first, by a natural law, but all are subject to unusual violence. The comparatively mild coastal climate does not normally have a winter as bad as this one, although extreme conditions are no surprise in North America, and the risks vary for the lives exposed to them. One winter with exceptionally deep frost in the ground, hard winds, and little snow cover, is as dangerous to plants as a month of snow would be to the birds. And a mild winter may result in death or damage from belated storms and cold.

We talk of storms and the hazards of temperature as though nature were merely arbitrary, and inconvenience the essence of her plans. Being less self-sheltered, life subject to wild nature knows the extremes as standards of action. Living things are continually balanced between a bold summer and a demanding winter, where storms are the rule and risk is constant. They are unable to accept less. This terror has its pride.

Death, Man Made

Perhaps winter and death are complimentary, but the other seasons kill too, in their degrees of need and fulfillment. General association with death is so constant in nature that we could almost deny the validity of the word. Death, if it is essential to the consumption of energy, is at the least fuel for the fire of life and more likely an inseparable part of the fire itself. In the natural year it is all-pervasive and yet discreet and nearly invisible to us. We hardly pause on its behalf unless its presence becomes spectacular. To see a dead animal on the highway, whether or not it was killed by human agency, is not something most human beings care about, one way or another. This is not necessarily due to wanton disregard of life, or inhumane feelings, but because we retain an unconscious acceptance of death, as well as a natural ferocity—it is what is left of the animal predator in us that beats the stranded fish with a stick, or shoots at a bird simply because it is new to us. And yet, that death, which is so constant a part of the natural rhythm that we disregard it when we pass its evidence, may also become an obtrusive, isolated, and even obscene element when caused by human agency. Our technology does not represent such a mastery over nature that it is able to replace or assume nature's ascendant ordering of things. We employ the methods of disaster with a heavier hand. Grace and accuracy of invention, abundance of means, are accompanied by an inordinate amount of plunder and pollution. In our power we are weak.

I think of the hundreds of water birds that I have seen this winter dying, starving, poisoned, or freezing to death, as a result



of having their plumage soaked by waste oil from ships. Tankers, merchant vessels of all kinds, cause drifting oil slicks on the surface of the ocean waters when their bilges are dumped at sea, or when their tanks are washed out when approaching port. Oil wastes seem to have made serious inroads on some forms of marine life in some areas, not to mention their soiling of beaches and shore waters. The sea birds drift into oil slicks at night when sleeping, or may even seek them out, mistaking them for plankton slicks. Eiders, old squaws, scoters, loons, brant, auks, all birds of our winter waters, come by immemorial habit to these feeding grounds for fish, plankton, or water plants. And because of the enormous and growing human traffic in ships and machines they have become endangered by something for which nothing in evolution has ever prepared them. Their feathers are tarred by an enormous brush, wielded at random.

Almost any day that I visit the shore I find a victim. Out on the sand flats at low tide is a female eider duck, crouched down in such a way as to make me mistake her at first for a dark brown chunk of driftwood. When I walk up she stays there without moving, but her eyes are alive, out of an unknown depth of helplessness and misery. The bird is dying. Her feathers, which in the female eider, are a handsome reddish brown, are not naturally glossy any more, but they shine, sickeningly, with a heavy coating of oil.

Some black and white males, whose necks are beautifully tinted, or washed with green, as though they had taken it from some of the northern sunsets from which they came, are swimming out over the water. I see others, both male and female, scattered along the shore. They have come on land, pathetically enough, to get warmer, in the sunny but freezing winter air. Birds affected by oil pollution have their feathers so matted together that they no longer serve as insulation, and the cold strikes directly to their skins. Even a spot of oil no bigger than a fifty-cent piece may expose them and cause pneumonia. So the doomed sea birds huddle up against a sandbank, out of the wind, or they waddle

into the water when I approach, or stand on rocks just offshore, vainly trying to preen dark smudges out of their feathers. Another effect of oil on plumage is to make the birds lose their buoyancy in the water, so that they swim half submerged, and when alarmed they are unable to take off but beat their wings and splash ahead with no result but further exhaustion. If the oil invades their digestive system, as they feed or preen, they are poisoned by it.

This winter the dying birds have been so conspicuous that many local residents have become aware of a situation which might otherwise escape their notice, although when it becomes really acute we may only recognize it by deduction, because some species of birds will be gone. It is reported that oil pollution has killed some 250,000 birds off Newfoundland this winter. The razor-billed auk is now thought to be virtually wiped out as a breeding bird in that area.

Some families in this area have tried to rescue a duck or an auk, having good feelings and a sense of responsibility. Success is none too frequent, since it depends on experience and great care in handling. It may take weeks to bring a bird back to normal vigor after it has been oiled. But the fact that a few individuals care enough to try is worth a thousand ships.

"Whoever deals you this death," I think, looking at some shivering eider on the sands or finding its soiled remains, "cannot get by with saying: 'This is just a bird.'" The bird retains that wild distance which always seems just beyond our grasp, and it is intrinsically wise. Nothing we do to it can alter its original kinship with nature. It is in harmonious balance with a complexity of which we are greatly in envy and to which our carelessness only makes us strangers.

March

Restless Days

Dormant vegetation is supposed to start awakening when the average mean temperature rises to 43 degrees, normally occurring in the northeast between April 1 and 15. Under unusually mild conditions, with the average minimum temperature lingering for some length of time above 32 degrees, growth begins sooner. This is of course a generality, a law of likelihood, which may be applied to an indefinite number of conditions. Spring may be spring, and winter winter, but March is a part of both February and April. During the warm days in February, the buds of the Mayflower or trailing arbutus begin to swell, while the skunk cabbage is steadily pushing up through frozen, marshy ground. Life does not recur after death so much as show its readiness; but in March the first obvious bursts of change begin to show, like those mountainous clouds coming up out of the west, with a fresh warm wind.

The huge clouds roll loose and fan upwards in the gold afternoon. Then the wind changes. A blowing, whispering snow comes out of the southeast, cruel to promise, blotting out the swelling buds, the feeling of release in the air, as if to say promise is nothing without what is not promised. Nothing is realized without the possibility of disaster.

"Ahh!" the indrawn breath of a storm, a swirling and seething to make life hide. The snow hisses incessantly into every corner and crevice. High-rolling, roaring tides push in. The storm rises to a mountainous capacity. The sea is fulsomely moaning, running under a white darkness. Comber after comber curls over, spills and plunges down, pounding the sands.

The wind seems to pause. It races violently as if to have another try at climactical energy. Then hail clicks down, spattering tree trunks and ground. The snow is turning to cold rain. We are getting "dirty weather." I feel a load of anger and disgust in me that rivals the storm.

I am, to some degree, a subject of these changing days. I come out of a kind of hibernation of my own that might not be connected with the actual state of the weather, but it has its parallels. It is so with my own temper. I hold it for fear of being overwild, and then some outer wildness, a change of air, an adjustment to open sunlight, brings me to a free delight, a sense of opportunity that I thought was gone.

March may seem cold, raw, and gloomy for most of its duration, but it begins consistently to offer evidence of new things. A white moth flies up in the headlights of my car one night. A robin jumps down to the wet, matted grass of the lawn. I seem to catch a new note of triumph in a crow. The chickadees are playing, chasing, constantly flitting from tree to tree. They call and answer one another like so many bells. They have a call that is sometimes mistaken for a phoebe's, but with three notes: "Fee-a-bee." And their song has a single phrase: "Here pretty" with an occasional syncopated pause followed by: "Pretty, pretty." Sometimes two of them sing at the same time, one on an upper and the other on a lower key.

A male blue bird, rare these days, perches on a wire, singing in sweet querulous tones, and I hear the continuous, talkative trill of a purple finch, a lovely casual song that comes from its throat like fast-dripping water.

Snow falls, or sleet, and the songs stop. The weather clears and the birds begin again, like chronometers of an underlying spring music. The sunlight glitters and I hear them again, just as I notice that the waters in the distance have changed from the hard blue of the winter and are streaked with green, as if filled with new veins of life. Color and music spring and change along with

new numbers and demands, part of nature's structure of love, a slowly increasing force, spreading out like a fan.

There is a reddening in knotty oak twigs. I notice the leaves on a dwarf clover plant, tentatively but surely uncurling. Small eels are dashing back and forth in an aquarium with a new excitement, nipping at their fellow inmates, a sunfish and a minnow.

This is the time of year that many animals start moving out of winter quarters, changing their range. On the highway I see dead muskrats that have been hit by cars, as well as some male gray squirrels. The squirrels sometimes dash back and forth across the road in a frantic kind of dance.

Frost still lies deep in the ground. As they have done throughout the winter, quail pipe high, across the swishing, roaring wind. But there is a new restlessness abroad. The air itself seems to change now and then to an easier, looser abandon. Cold days, arrestations, come, but in counterbalance to surges of allowance and release. Life is beginning to seek its opportunities.

I am impatient for spring, as raw, unseasonably cold weather continues, and then I see a dark little caterpillar on the road, or a mourning cloak butterfly, sprung out of hibernation. I hear a pair of mourning doves, cooing with slow measure and deliberation, long silences between. They seem to say something to me about attention. "What will come may not be, as yet. But we know when. And you might if you listened."

If I listened, and if I watched, found each insect as it came out of hibernation, comprehended a tree as a living thing, beginning to stir and seek, followed the development of buds and roots, the unseen life that stirs in egg or chrysalis through every inch of ground.

There is, in common with the rest of the year's revolutions, nothing neat or simple about the process of reawakening. It has started already. Racoons in this area begin to breed in February and start foraging for their young in March. The great horned owl nests in January and February. During the dead of winter a few animals such as skates and barnacles start breeding in off-

shore waters. Variable reaction in this time of change is as complex as the order which controls it.

Hibernation itself, that mysterious state which is somewhere between death and sleep, differs in various species. Some mammals hibernate not because of outside conditions but because of internal changes in their blood stream, as if timed not to the weather but the year. Each life is cyclical, corresponding accurately to the circling of the globe, but in mode and terms it differs vastly. When the frogs begin to stir around a local pond, birds, independent of hibernation, move back from other climates. Late in March a few alewives swim into fresh water from the sea. Late in April large numbers begin to show up, at a time which only varies by a few days, year after year. Yet their arrival, like their growth and responses, is conditioned by any number of circumstances that are not only physically distant from us but may be remote as yet from scientific scrutiny. To realize that the slightest changes in temperature can affect whole worlds of life, and that this factor is only one of many, can make a man feel hopelessly inept.

So spring is not to come now, nor tomorrow, suddenly complete with shy warmth and flowers according to our expectations, but will take its periodic time, within a wide range and with enormous resources. By the same token, no spring comes pleasantly, without a certain amount of doom in its wake. A flock of male blue birds flies north too soon. They die during a severe snow storm or a week of extreme cold. Thawing takes place too suddenly for one form of life, and too quick a drop in temperature will kill another.

March is complex and March is in a rage, though I begin to feel a universal response, a gradual turn, in the ground, through the trees, down by the shore as the wind changes from tearing things loose to a peaceful low breathing. I smell salt things on the edge of motion, balanced on a tip of allowance. I hear what I am unable to see, stirring, tuning up across the land. The response may be hesitant or bold, delayed or premature, but it is coming. There is knowledge around me, even purpose, whether or not it

is working in mindless ways. When I see sunlight playing on a blade of grass, I see the component parts of wisdom. Then the grass joins the squirrel in its dance. Eels join men in restlessness and speculation.

An Extravagance

We built a small concrete pool on our place, which is locally known as Dry Hill, and so brought the life of water a little closer to us. In the summertime the pool nurtures a migrant population of green frogs. I have put nothing in it except some sunfish that subsequently died, so that the occasional signs of new life it shows, like a water strider, or some nymph or larva of an insect that flew by and deposited its eggs, always strikes me as a dispensation from the sky. It is a proof of life's pressing, inescapable need to drive into every opening.

Thinking of draining the pool and cleaning it out for the approach of spring, I find a life so surprising and sudden as to take all human propriety out of my system. There, on the brown, algae-fringed edge of the pool, something moves, telling me that this well of water is more than ornamental. Light olive-colored insects, scum-covered, goggle-eyed, stalk on the edge, or skate very slowly through the water—the strangest kind of revelation. What could I clean up now without a sense of shame?

The dragonfly larva, or nymph, which turns into an adult after a series of molts, is a fantastic-looking creature. I take one out of the pool and put it in a jar for observation. What I observe has no familiar meaning for me. It stays motionless, except when the jar is moved. I wonder again, as I did with a robber fly in the summer, what an insect is. Is it only a stereotyped pattern on the changing screen of nature? This one exhibits itself as a sort of em-

bodied suspension, careless of death or time, like the process of evolution itself. There is no hurry.

The nymph lives for more than a week without food. Through a magnifying glass, I look at the flat-bottomed, skiff-shaped body made shaggy by algae-covered hair, the jointed legs, the upended tail. It is striped, and there are brown markings over and across its goggle eyes, and brown on its strange mouth part, which sits in front of its face like a catcher's mask. This part, or device, is called the labrum. It is hinged, equipped with hooks, and can be shot forward rapidly to grab and hold the animal's prey. In the nymph's case, as with so many other things in nature, seemingly endless waiting and suspense precedes occasional spurts of lightning rapidity.

As I peer at it, greatly enlarged behind my magnifying glass, its jointed legs suddenly flail up in front of me, and I actually feel a tremor of alarm—which might be humorous, except for my sense that this small dragon is timeless in some awesome way.

As March is proving a seasonal release, at least in starting, so it also reveals an extravagance in the form of a dragonfly nymph, and what will come from that little insect shows that extravagance may have no end. After a series of molts, the number and duration of which depends on the species, a nymph will climb up on some green stalk spiking out of the water, the skin on its back will crack, and it will emerge from a sheath which it leaves behind, a dry, empty counterpart, and turn into a big, gauzy-winged dragonfly. It is given two worlds, water and air. Its embodied transformation from one into another is as rare a thing as the transformation of a caterpillar into a butterfly; and is evidence of a daring like the flight of Icarus toward the sun, but more successful.

Nature takes the nymph out of itself. It is no goggle-eyed inhabitant of some other planet, no knight doomed to expire by weight of armor. I see the fantastic in it and also a miraculous reality, which will not rest with own products. This water predator will turn into a brightly colored, great-eyed hunter, skimming everywhere over land and water, darting across the roaring

traffic of a city, flying over the surface of the ocean miles from land. Time seems suspended in the nymph; and this may be appropriate enough. It is the result of ages; but its metamorphosis is fresh and new, a successful act of endless creativity.

Interpretation

It is in the nature of things to surprise, after temporary imprisonments. Surprise is what men look for. It is a need. And this puts us somewhat in the position of a dragonfly larva, suspended, until sprung out. Since we are not as rigidly and instinctively stuck as the insects, relief from our often unblessed condition may come simply because we get a chance to look around. Freshness of act, unfailing originality, is here, but it takes time to see. After an age of inattention it comes like a red squirrel, which I meet unexpectedly one raw March morning. Its whole body twitches and shakes. It jumps with an extraordinary series of halts and starts; then, like a boy playing Indian, it leaps behind a rock as I walk by.

If there is any spare time in a harried world, perhaps it should be used in cultivating habits of attention, learning how to keep open for possibility, instead of inventing distractions that provide for nothing. What is loosely called "nature study" requires discipline like any other area of knowledge, and acquaintance with its subjects, their names, their habits, their place and performance, may encourage extremes of refinement; but it is one good way to begin. It takes you out. It shows you what else can be done. By example it may spring you into a new mood of action. It provides new acquaintances, showing you life, the surprise, where there used to be a wall.

I, as well as my children, am still learning to read. I am still making a collection of terms, in order to attempt a rudimentary analysis of what I find. First in importance, though, comes an admission that what I am considering is not so strangled by human

terminology that it does not have an identity, a sacredness even, of its own. Discovery gets its worth from what it pursues.

I see a pitch pine with different eyes, not because I have learned that its clusters have three needles, but because I recognize its independent existence. I know that it has needs, and a history, that it is not divorced from an infinity of circumstances just because I can identify it. We do not need to be vain about our name grubbing, our scientific nomenclature; it is only the beginning.

When I go to the edge of a pond I have a pleasurable sense of excitement, not only because I have been there before, finding the good old tadpoles and water striders, but because I know that I will find something unexplained, the same life perhaps, but in new relationships.

There is a swarm of thin little flies dancing in the warm sunlight on a March afternoon. They not only tell me something about the lengthening days, but the light seems to sit differently on their wings. They are a revelation, materializing out of a distance, hovering near.

In the game of identification we have to admit that nature is not an exclusively human province. Then we can be led by it, like this class of children, boys and girls on file through the woods, exploring new land, in expectation.

There has been a light fall of snow, and a cold wind blows off the tidal marshes on the north side of the woods, but a warm wind is out and it is only half-winter. There is a cover of unmelted snow in shaded slopes and hollows. The buds are glassy and on twigs and branches small ice capsules reflect the light. Snow blankets the tangles of briar where rabbits have their runs. Tiny upmounded tunnels show where mice scuttle through the snow's protection. Pheasant tracks are found on the way, and then the odd, creaky, fowl-like call of a pheasant sounds in the near distance. Several myrtle warblers are seen in a clearing on the south side of the woods, a sheltered area bordering on a tidal creek. In a

marsh beyond the creek, which is running backwards because of the tide, cattails stand with a half cap of snow on their brown shako heads, on the side facing away from the sun. There is an icy glaze on the buds of a pussy willow. We are between north and south, winter and spring, snow and melted snow, arrested in clear parallels of beauty, turned toward the willingness of spring. Something calls to a slow and gentle attention that has been waiting in us. I wonder whether it is the identification of a pheasant's tracks, or of a myrtle warbler, that they will remember in the future, or the special character of this day.

It is hard to know what children perceive or retain. Suddenness, spontaneity, silence covers an untold number of impressions. Weeks, months, years later, they come out with something learned that a teacher could not have suspected. Occasionally they reveal an exactness which is innately theirs, quite apart from a classroom. I remember a little redheaded girl trying to tell us about a big white bird she had seen on the Chatham shore of the Cape. All description failed until she wagged her head back and forth in a special way, and we realized she had seen a snowy owl.

Then there was a boy who characterized the blue jay as being "the loudest bird in the East," which may have brought the jay out of the realm of science but not accuracy.

But we lead in to nature through names as well as our senses, and then by familiarity with habits, size, shape, color, the order of change, the ways of dying out and returning with plants and animals. Knowledge is our medium, and we are obliged to question.

What is that tree, strangely bent over along the snowy ground? A wild cherry? What happened to it? What is the evidence? Did another tree fall on it when it was a sapling, bend it down and force it to grow out horizontally? Its thick trunk stretches for six feet parallel to the ground, only a few inches above it, then turns and starts up into a sky-opening between the thickets beside it, sending up a wild array of branches. What else can we say about it?

Then one boy, putting things together, hearing how the tree compensated for its difficulties, needed light, and thrust after it, cries out: "Why that sounds as if the tree was alive!" That is what we have been looking for. He is well started.

Response

March progresses toward its end, gradually adding to the population. Dark-headed, deep-colored male robins tug at worms on the lawn. Red-winged blackbirds sail low over marshes, or take stations by the edge of a pond, with reedy cries. The purple finches sing, along with the shrill braying of the blue jays. White-throated sparrows, quail, jays, and partridges that have been here all winter are more in evidence, especially on sunny days, and begin to be accompanied by newcomers, like the grackles. Myrtle warblers flutter up into the air and down again, catching insects. But the wind blows. It backs and fills. The rain is cold. The turn toward spring is very gradual, hardly perceptible at times.

Then a few alewives, a dozen or so, come in out of salt water and show up in Stony Brook, familiar strangers, large, pale fish weaving slowly up through the narrow stream. It has begun to be a time of declaration. New patterns, new arrangements are taking place, however much the season seems to lag.

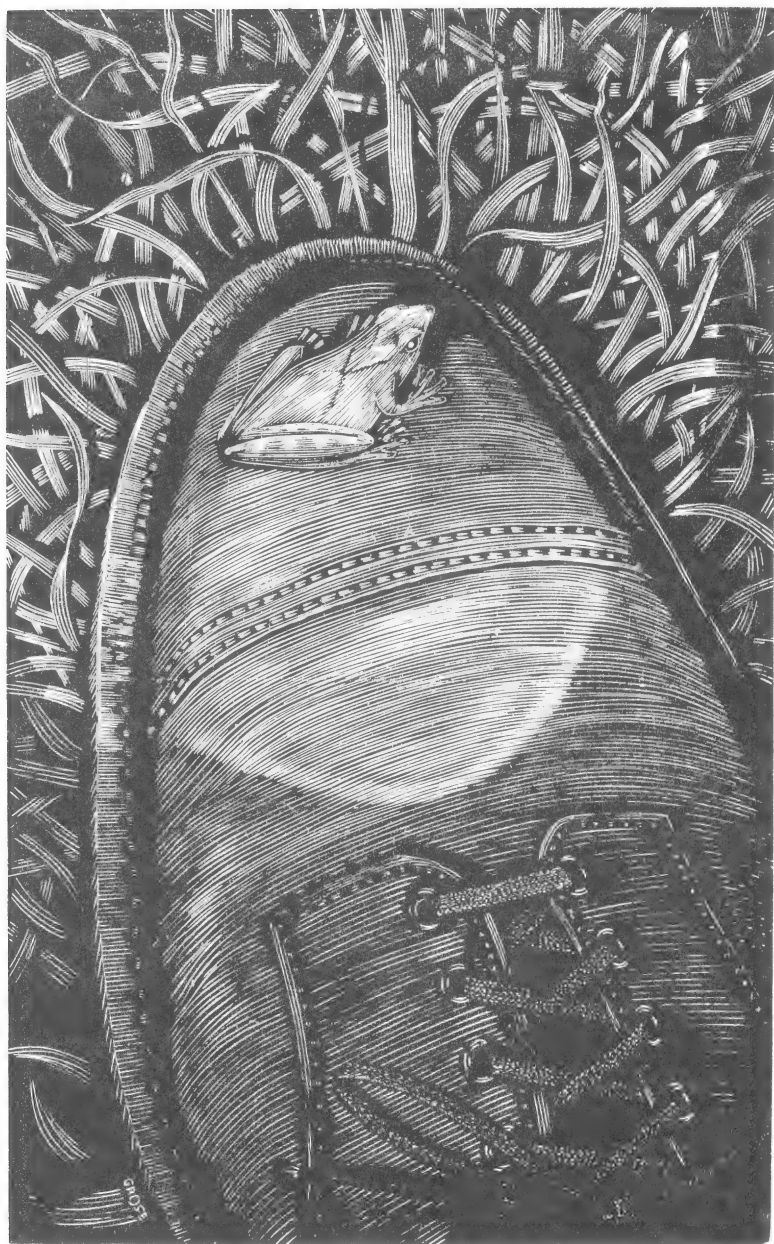
On the evening of the twenty-sixth I hear a high, shrill sound, whirring and spinning, suggesting proud activity, presence set free. The spring peepers are making it known that a time has arrived, and I take joy in the news, having failed to make any definite assurance of it myself. Their sound embraces all this changing land, rising above the whispered roars of the sea.

Now the perpetrator of this chorus is a tiny tan frog with a smudged cross or X on its back, named *Hyla Crucifer*. The male of the species has been speaking up on behalf of spring openings for millions of years. In that capacity it is authoritative enough.

Its voice, almost incredibly loud and shrill for an animal that is not much over an inch long, is amplified by means of a large bubblelike pouch which acts as a resonator. This mechanism is put to use after the animal comes out of winter torpor, after warm rain, and as the season itself breathes and sounds more freely. The peeper moves around with the earth itself and makes a declaration which, it seems to me, does not deserve the term automatic any more than the fiddling of grasshoppers in August. Both are part of the deep and various play of the year. In any case this specialty of voice is something of a marvel in itself. It is not like the eyes of an owl that are so made as to make maximum use of dim light, or the wings of a herring gull that can ride turbulent air currents above the water, or like the fins of a fish, the sensitive nose of a dog. The peeper's vocal parts are not specialized for environmental use to that degree. Their primary, specific function is to attract the female. Mating and voice are synonomous. But perhaps we could also say that this mating cry, this sometimes bell-like sound, is fitted to the whole environment, that it belongs unerringly to a new earth and a new season. It seems to bring life and place, function and expression together. It is unequivocal. It is perfect. It speaks up reliably on behalf of everything now springing or about to spring.

For all their vast population in the bogs, ponds, edges, swamps, and other wet areas of the Cape, individual spring peepers are very hard to find. During a cool evening, as the stars begin to declare themselves, I hear the peepers' collective voice rising up around me, passing into the sky. On the banks of Berry's Hole, that deep, swampy hollow nearby, there is a pulsing, piercing, deafening chorus. The wind suddenly blows over in a loud torrent, but the peepers keep on. I walk farther down and they stop; then they begin again, after I sit still for a minute or two. The banks are wet, after a light afternoon rain, and they must be covered by frogs, judging by the sound; but I search every bit of ground with a flashlight and am unable to find a single one.

A wild, moist spring wind flings around the rim of the hollow,



which is gray, dusted with fog, and in the clear opening overhead the stars fling out and away. Water stands dark and still where the banks end. Grass hummocks and shrubs choke the wet areas beyond. I sit for many minutes concentrating on one area with my flashlight. The peepers' cry is deafening. Then at last, I see one. It jumps onto my shoes. And then another, on a low lying branch, moving along in the light—it displaces a third, which is toppled down into the leaves. They seem limp in action. A peeper is minute, almost weightless in my hand.

Nearby footsteps will silence them. They react spontaneously like tadpoles and minnows that dart off into deep water from a pond's edge when you approach. Yet they are not bothered by the beam of a flashlight.

Such a tiny thing, this animal, this cool, moist, anonymous amphibian, for so proud a message! I can see that a peeper's whole body pumps as it calls. It is like a bellows, and the vocal sac blows out like a blister, bluish-green in the light. "Peep-peep-peep," and the whole night is filled with an insistent, stirring cry. No human statement can rival this simple, triumphant mode of revelation. The earth begins again.

April

Deeper News

I read in the papers that spring is beginning to show its vast capacity in the nation behind us, with tornadoes in the west, and floods to the south. The way is being cleared with a violence.

And here, heavy fogs invest the Cape during the early morning and at night. On the night of the second we are lashed by a savage gale, carrying wet snow and rain, and feel a searching, bitter dampness. The next morning the sun comes out with promise and radiance. There is a faint new fragrance in the air. It would have been nothing but that—a sense of mild relief after the pressure of a storm, but for another piece of news. At 1 A.M. the Coast Guard had received an “incoherent” distress signal, though without exact location, from a vessel somewhere on a twenty-five-mile stretch of shore between Cape Cod light in Truro and Nauset light in Orleans. It was found before dawn, an eighty-three-foot trawler, which had run aground off South Wellfleet. Out of a crew of seven, the reports say, two are drowned, four survived, and one is missing.

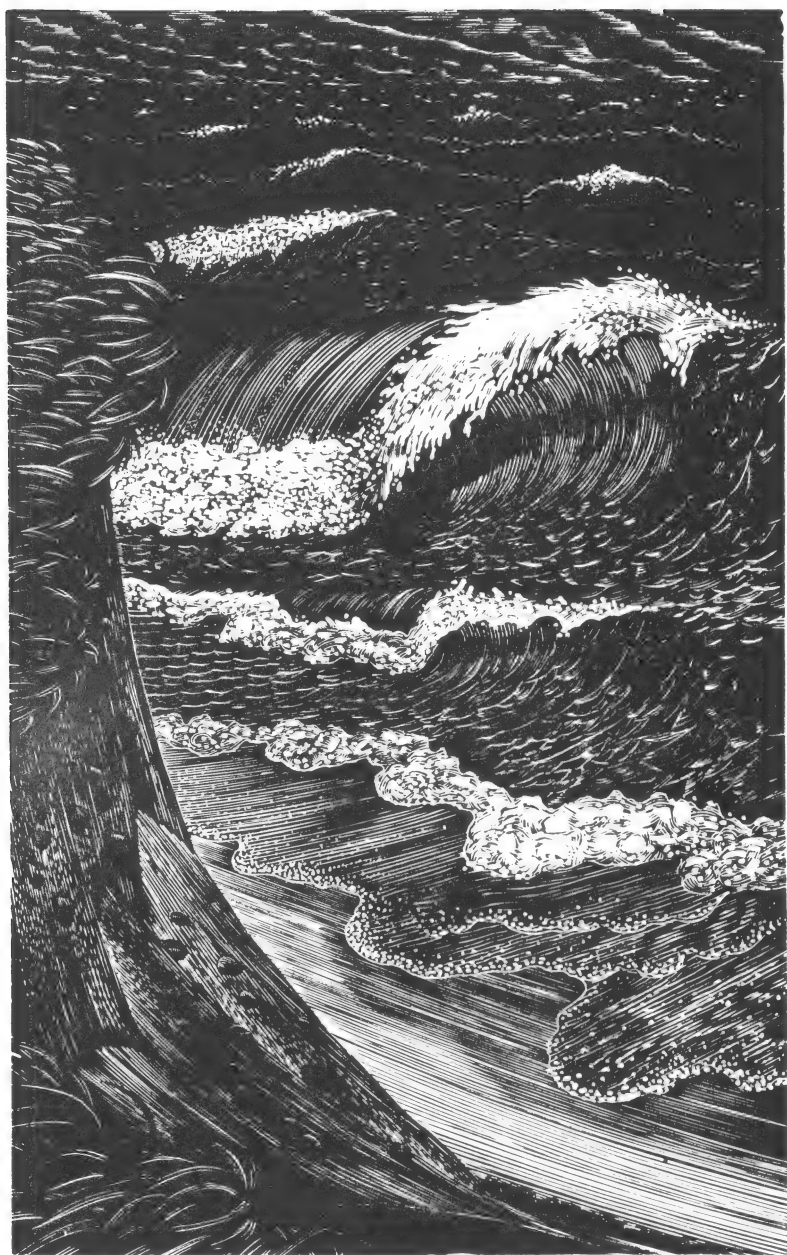
They were returning to Boston with 38,000 pounds of fish, after fishing west of Georges Banks. During the night, through a thick fog, a thirty- to forty-mile-an-hour wind, high waves, and heavy rain, the radar stopped working and the crewmen were unable to see. The “Back Shore” bar, on which the trawler ran aground, is an old graveyard for ships. Modern equipment has cut down greatly on losses, along with some of the old safeguards against them. Many lighthouses are no longer manned by lighthouse keepers and their families. Great beams of light swing out

over the dark sea and back again with inanimate, unmanned precision. Members of Coast Guard rescue crews may no longer be men born and bred here who know every inch of their beaches. In fact, they are more likely to come from a different state, and to be stationed temporarily on the Cape, so that a man hunting for a wreck may not have too exact an idea of his location.

During the afternoon, after I hear the news and drive to see the wreck, a southwest wind blows over the cliffs that stand above the Wellfleet beach, and clouds swirl up across the blue emptiness. Cars line both sides of the road. A thin trickle of people walk along the heights, sands held by yellow grass and purple patches of bearberry, and there are others far down the long beach where the trawler lies, heaved over to starboard.

From morning news accounts and a scatter of talk the story of the doomed ship and the rescue comes to me a little, from under its nighttime shroud of fog and heaving waves. After the radar quit and the vessel ran aground on the sand bar, the crew made a futile effort to get her off. Then the radio failed. The ship was being knocked around in the thrashing darkness. All attempts failed to put dories overboard. And the seven men went into the pilothouse, where they stayed for some five hours. When day broke, the tide was changing and the seas seemed bigger than ever. The men were battered and exhausted. The trawler's decks were awash, and they thought she was beginning to break up. The captain then ordered the crew over the sides, at which time the ship was some 600 to 700 yards offshore.

A local family, a man, his wife, and twelve-year-old daughter, proprietors of summer cottages above the beach, were awakened at four forty-five in the morning by two coastguardmen who had seen the wreck and stopped in to use the phone. While one of the men drove along the heights and trained the spotlights of his jeep on the wreck, the other, accompanied by the family, walked down to the shore. The fog had lifted a little and they could see white spars rocking above the water, and what looked at first like debris, being washed back and forth against the shore. Forming



a hand-to-hand chain, the four rescuers then managed by just standing out far enough in the icy water to pull three men in. More Coast Guard personnel came later and rescued the fourth. The survivors were terribly numbed by the cold. One of them had to be forced into walking so as to save his life. "How much further?" he kept mumbling, as he stumbled around in the sands, held up by the mother and daughter. Later, the flesh of these survivors was found to be black and blue from the pounding they had taken on board the ship and in the surf, flung against the sands.

Two other crewmen were found dead on the beach. Another local resident saw one of them where he lay at the bottom of a ladder that reached down the cliff: "A big man, between thirty and forty. He had coveralls on, but no shirt."

His wife says: "I'll never complain about the price of fish again!"

There are plenty of fish in evidence, all for free, although not a single one is taken away. The boat's catch must have been broken into and scattered by the surf. Every ten yards or so along the wide, shelving beach are dead fish, lined up as if they had been placed there—a market display, for no taste but dissolution. Gray haddock cleaned by the fishermen's knives. Rose fish, pinkish, orange-red, a sunset color, with fringed fins, and enormous jellied eyes rimmed with white, like goggles.

A hatch cover floats loose in the water, and a pair of yellow, oiled fisherman's overalls lies on the sand.

The boat, which was shoved and lifted by the seas until it now lies a few yards off the beach, is just ahead. We curious onlookers walk toward it in growing silence. The surf waters are breaking on the beach beside the strong, humble craft, inactive, done, pounded down. I can make out her name, *Paulmino*, along the bow. She is banked over hard, and the waves, still fairly high, back and fill around the stern. They well up, then ease away again. Where water sloshes amidships there are tattered nets and bobbing cork floats. The steel masts stand with ropes and stays unbroken,

and the high, white pilothouse is intact, where they spent their terrible night.

I walk away from that scene with a question. Surely they could have stayed on board and survived? But time is not waiting for could-have-beens. The sea rolls by. The stars burn and roar in their distances. Immortal death, an ending, but the source of all questions and the answer to them, roars on too without reply. Men in their death, or fish, or birds, are the same. They share in universal soundings that no mortal fear escapes.

April Light

One evening, about nine o'clock, I walk out to listen to the peepers again. Their chorus comes up to the hill from all the watery lows around it, and through a fog-muffled distance I hear the scrambled yelping of herring gulls. It means a run of alewives swimming in to Paine's Creek from the bay, on an incoming tide, two hours before the turn. The gulls can get at this feast more easily when the fish are crowded and not too far from the surface before complete darkness sets in. When I reach the shore, curls and wisps of fog show up in the headlights of my car. Gulls cry in alarm and fly back over the water. There is hardly any wind. The low, bull-like tones of a foghorn sound in the distance. But the stars shine out overhead.

Long semicircular wavelets lap over the wide mouth of the creek where it enters the bay, and where the channel curves inland I can hear the fish slapping in the water as they swim in, making an occasional splash as they rush to the surface. Out in the middle of the stream, some twenty feet wide, I can dimly make out the head of an animal—probably a harbor seal that has been making a foray after fish in the channel—swimming steadily in the direction of the bay. I greet it with a yell as its head slips by and out of sight.

A black-crowned night heron starts up with a low harsh "Quok!" where I startle it from its fishing stance along the water's edge. The stars are brilliant, the sky above the low fog and bold emptiness of the shore is a vast cavern throbbing with light. Cold sea water, high spring night—life around me takes its antediluvian

chances. The fish come on with a proud mission, deliberate in its age, secure in its origins.

Then I notice that there are stars underfoot as well. My feet strike stars in the damp sand. Everywhere I walk I am shod with light. Now it comes to me that these may be some light-emitting marine animals that I have read about, a family of protozoa called *noctiluca*. They are microorganisms, and although the sand gleams in my hand, they are not to be found or seen with the naked eye. What kind of "phenomenon" is this? At once a chemical reaction and a living thing? This illumination from mindless lives seems to me to have an incredible vitality. When I stamp brutally on the ground the prickly squares of light dim a little, but nothing I do can put them out or alter their abundance. The sea's riches touch the shore and leave their fire. I may be in the presence of something that is nearly indecipherable, neither matter nor anti-matter, neither the animate nor the inanimate, but a true representative of the sun, and more than the moon, a life in light.

There are these night lights; and the lights of day, like the newly arrived tree swallows that shuttle across a stream dipping and diving in the air after insects. They have lovely white bellies, backs of a beetle's iridescent green.

Because there is still a tight residue of winter left in the air, the warm days when they come seem to promise everything. They come to us like a story to a child: "What happens next?" As I look through the novel glassy stillness outside the house I can hear the click of a bird's bill as it chases a fly to the ground. It almost seems possible to see the grass growing.

There is a rich salt smell coming from tidal marshes, a bolder light on their hummocks and stretches of oaten thatch. The sea breeze sounds, making the distance stretch with music in the light's new allowance.

In these opening stages, spring feels to me like a bird settling on the water, like a herring gull that drops down to the surface, spins a graceful half circle when it lands, adjusts its wings,

and settles down to rest. Life begins to show easier, freer ways of action which it had almost forgotten in the cold and dark. It displays itself, like the soft red flowers that hang from the maple trees, or the mourning cloak butterfly, come out of hibernation, stretching its wings in the yellow sunlight of a path where I am walking.

These are the signs of spring, the illuminations I have been waiting for. And its fresh, cool wind, striking my face, seems to carry new senses with it. It is beginning to be fragrant and full. It calls up in me a new alertness along with a new contentment. But underneath all these pleasant surfaces and scattered events, I feel the power of their origins. For all I can find and associate with spring, the romantic, welcome season, there are vastly more uncounted changes, unrealized ways of reaching up and out, responding to a new range of light and darkness. The protozoa tell me I have seen nothing yet as to fire. The migrant herring coming in at night say this April is ageless and dark. Everywhere around me, things deeply silent and unseen begin to share a proximity. They move in the waters, while they shoulder the dirt below ground. In the structure of their alliances, developed in measure and with appropriateness, is the co-ordination of the great globe as it spins in space. They respond to a power which not only defines the "spring" but will transform it and send it on its way.

“Frightened Away”

The swallows freely dip and fall and sail in high wild air, and as a southern surprise two adult turkey vultures soar low over the land, their wings like great flags, frayed at the tips. The cattail seeds begin to fly. Part of April's cool progression, the tough-leaved Mayflowers blossom out of banks and brown leaf litter, with tiny pink and white flowers, deep cupped, strong and sweet of scent.

On the twenty-fifth there is a big run of alewives in the brook. It is an event that attracts attention. Cars stop by. Small crowds gather and walk down to see the fish. This is not as great a day as it used to be, when salt herring counted heavily in the economic livelihood of Cape Cod, but it brings up remnant feelings. And the fish, after all, provide an open ceremony, even though the details of their natural or economic history may not be known to everyone. It is a spectacle worth leaving a car for, and might even tempt someone to leave his car for good, suggesting new roads and means of locomotion not yet considered.

They mass in the shallow water of the brook, with flinty gleams showing on their backs and dorsal fins. Eyes staring, mouths gaping, turning and wheeling, the foot-long alewives move up through the fishways, obeying their great drive for fulfillment. Herring gulls gather above the water course by which the fish ascend through marshes and then fresh water to their spawning areas in the ponds. They circle overhead in the blinding sky, like a prodigal crown.

The alewife multitude always draws a “why” from some

visitor. Their force is so obvious and yet not quite to be explained by referring to them as "poor fish." Huge numbers are caught in nets where they die in a shining, gasping, shivering mass, and then are hauled away in barrels for the purposes of bait or cat food. Others attempt impossible rocky barriers and die of wounds or exhaustion, and a certain percentage have fallen prey to gulls before they arrive. They encounter enormous hazards, and the alewives, unlike men, or as men think of themselves, are unable to turn back. The plan that put them here seems wasteful and even too bold for those who see life in terms of human ascendancy, where all problems are subordinate to our conscious attempt to use the earth and save ourselves. But there they are, back again so committedly as to make the most self-enclosed glimpse something of the primal energy that makes all life insist on renewal and advance. Even the children who jump down to the water's edge and try to flip the fish out with their hands, treating them sometimes with extraordinary cruelty, must feel some attachment to this force, or perhaps they feel it more than the rest of us.

After trying to explain the habits of alewives to a group of children one day, I asked them why, if all the fish were taken out of the brook every day in the week, there would be hardly any fish returning in a few years' time.

I don't excuse my lack of clarity. In any case, one boy answered: "Because they would get so frightened they would all go away and not come back."

Wrong, of course. Someone might even be tempted to cry: "Ridiculous!" The answer to the question is that most of the alewives return to the stream in whose headwaters they were hatched and where they grew up for a few weeks or months of their lives before returning to salt water. They then continue to grow in the sea, returning at sexual maturity in three or four years' time. So if all the spawning fish are taken out of the brook every day in the week there would be no eggs to hatch out in the ponds above the stream, and the population would be decimated.

"No," you say to the child, "you don't understand. Let me explain this again."

That the fish are "frightened" does not come into the picture at all, aside from the facts, and it is blatant anthropomorphism to try and read human response or attributes into a fish. Does a fish take fright? Perhaps, although it might be more accurate to call it an alarm, or flight reaction, an automatic nerve response inherent in the whole race.

Trying to talk like an adult, I describe the alewives' running in to spawn as "slavery to the reproductive urge." What happens to them on the way is immaterial to this unconscious necessity. Fish that commit suicide do not do so out of choice.

And yet, when these fish swing away from me, as my shadow comes over them, when they try time after time, sometimes frantically, to climb a mound of rocks or a head of water, I wonder about being "frightened," or the noun "fear." Is this spring stream of life without it? A bird trips off a branch in sudden alarm, cries out, and then forgets, to start in on a singing joy all over again. Birds are more emotional than cold-blooded fish, but if fear is a protective, lifesaving reaction inherent in a great many animals, then the fish may not be devoid of it. They are one of the foods of the universe, and in balance with that function, it is not just that their glands stimulate them to momentary activity, or that they flinch before disaster, but that they express in their bodies the wild need for freedom to act, to find, to run, to be, that manifests itself in highly developed animals, and to some degree in the lesser ones. They are in a sense compensating for the uses to which they are put as a prey, or element, of universal appetite.

The alewives will not be frightened away, but they will come back with fear. It is not wise to be too impatient with a child.

May

Declarations

The colder, and still relatively silent world of April is past. Warm sunlight runs across trees, sharp shadows, water and sand, with a penetrating radiance. The alewives now come up the inland stream day after day. Pale, sun laden, they move against the fast-rushing current, arousing great excitement in the gulls. The big white and gray birds hover over, then dive down in a flock where the fish crowd in shallow water on their way up. The valley is full of marauding and assemblies and crying out as the fish keep on, rushing and weaving with the stream flowing over their backs.

And now the shad blow blooms. Thousands and thousands of these little trees are laden, but lightly, with lacy white flowers, looking like standing clouds in open woods and valleys throughout the Cape. Pink and yellow and silvery-green colors begin to appear on the oaks. Anthers are hanging conspicuously from the pitch pines.

Fish, insects, plants, birds are all, if I can personify them so, in close and obedient relationship to nature. They count on strength and protection when they sing or flower out above the ground. They are in confident relationship to the general being. And so they act with confidence. They have come. They will be. They declare themselves. The birds make the dawns sound with a silvery rain of music. On the morning when a thrush wakes me up, its rippling and melodious peals lifting and diving through the air, I have an incalculable urge to migrate outward and claim new territory. Spring tells me I have not had enough.

The shore birds appear in new flocks all the time, skimming and crying along a once empty shore. Colorful little warblers populate the woods, each with so mature and particular a color and set of ways. Now, I think, they are all back from Mexico or Florida or Patagonia, to help us not only in our geography but to extend our senses.

Motion and change of place are a bird's necessity. Wings insist on flight. Yet their recognition of that part of the land or length of shore they come to in spring seems as positive as that of any home builder on a numbered lot. When they arrive, a large majority claim a place with all the resources at their command. In the science of ornithology this is called "territorialism." Male birds, which often arrive some days or weeks before the females, select an area of land as a nesting site, which they defend against all intruders. Most of the songs of spring are advertisements by male birds of the fact of land possession.

The towhees are more insistent and vociferous in their claiming than most. I hear two males, both perched on low trees, perhaps a hundred yards apart, that keep at their singing as if they had a rivalry that would never end. Each declares. Each holds its own, as if song is an anchor to the earth. They stop me in my tracks. A human being is a clumsy, noisy, obstreperous animal. When I walk down a slope or through the level fields, I find myself so involved with my own racket as to lose all sense of what it was I set out to look for. Where is peace if you yourself destroy it? These birds help me to command it. I stop and listen to them, squaring off the limits they declare.

"*Airtree!*" the towhees call, and "*Tip-your-tree!*" continually, inexhaustibly. There is probably little point in using words like pride, challenge, or anticipation in terms of these singers. Who in the nonhuman world knows but they? Our music is not theirs, however much we have borrowed from them. Still, what I catch at, and what starts in me, is feeling. Their songs are an expression of it. The towhees are here to establish themselves. Their future is in direct relation to the place they have chosen for it, which

may also be the general area where they were born. Their voices measure place, a real and powerful thing to them. Song insists. Song makes known. Song is a self-assurance. Since this singing is done in collaboration with the arousing, fecund world of spring, it may in its own way be true awareness.

In the newly unfolding regions of delicate leaves a prairie warbler sings "Tsee-tsee-tsee-tsee-tsee-tsee" very rapidly, on an upward crescendo. A slim little bird, with a yellow breast streaked with black, its sharp trim beak opens wide as the notes swell out of its throat, and it seems to send song as far as it can. I think of constant effort, constant quick hearts. It picks up a light green caterpillar from the oak leaves and sings as it holds it in its beak. Then the warbler beats at the insect a little, pecks and shakes it, then swallows it down; and goes on singing.

An oven bird perches on the oaks and sings, with breast uplifted, tail shaking, making a glorious effort. How could I dare say that this bird or another down the road, which accompanies it, is only singing something that sounds to our ears like "Teacher-teacher-teacher"? No bird song is alike, even in members of the same species. Each individual has its variation and seems to derive strength and pleasure from it. And it seems to me that they not only declare their rights and titles but are expressing something on behalf of spring. It is as if they sang: "It is not I. It is not I" but rather, all flowering, crossing, taking or accumulating, all growth. The song is a part of earth.

Then there is that bird, a member of the family of mimics, the brown thrasher, which seems to make a mockery of the whole business. It is a cinnamon-winged, speckled-breasted, long-tailed bird, with a long bill and sharp, quick yellow eyes. The male thrasher is certainly as intense and serious about the duty of staking out his territory as any other species, but what issues loudly from his open bill seems like the most comical sort of parody. He may not be as good a mimic as the mocking bird—which has been known to imitate a flock of blue jays—but he manages a wonderful take-off on the whole race of birds. He is a

master of a grab bag of trills, chatters, pips and cries, of rasps and sweetnesses, of sudden blurts, and obvious pauses as if for effect.

Translated into a rapid tempo of words, his song might sound like this: "Jeremy! Jeremy! Ready here. Right here. Wide awake. Wide awake. Chipper! Chipper! Shake a leg. Up! Up! Here's a joker. This way. This way." . . . an interpretation which probably makes me as ridiculous as he intended, if he is a serious humorist. In the middle of this exhortation I hear a comic little "Cucaracha!" or quite a good imitation of a whippoorwill, as if he saved his more exact skills for a casual moment.

The thrasher may be just as conditioned in his joy and utterances as any other bird. His variations on the general bird theme may come out abstractly, without any attempt at parody, a limited kind of talent, and yet when I listen to it it seems to me that the bounds of song are being just a bit extended. As compared with other birds, the blackpoll warbler for example, with only a thin, high note, reminiscent of insect sounds in the summer, the thrasher has range and repertoire. He is vocal and conversational, even to the extent of tempting at least one human animal into reading words and intentions into his performance; and this, from a bird's point of view, might mean that I was extending my limits too.

Facets of Expression

I make a foolish game out of attaching words to a bird's song. Perhaps it is a way of trying to bring the two of us together in familiarity, but to give nature its true respect, every song, color, and action is its own master. Understanding, the best human means of communicating with other lives, might be most effectively attained by keeping a certain distance.

That is the way I feel when I see the alert, tough little chickadees coming up to the house and picking up tufts of hair, rope, or wool, to use as nesting material. They set to work carding it so busily and self-sufficiently that I am restrained from an impulse to join in and look things over. I walk off to my own business.

A pair of tree swallows is trying out a birdhouse, and when I stay too long in the vicinity, they are given an extra reason for a negative decision as to its merits and fly into the distance. This is a time not to meddle, tease, interfere, or try to imitate what cannot be imitated.

From that point of view the life of May, free of human embrace, seems full of wonderful languages, still to be learned, and they are not confined to the uses of sound. Isn't a flower or wing or new leaf articulate? I watch a mourning cloak butterfly that flits and floats overhead and then lands on a bare patch of ground in the sunlight. The broad wings fold and show their dark, woody, shadow side, with little white circles on them, their pattern and texture a blend of weather-beaten, drab forest floors, suggestive of niches and corners of leaf-decaying darkness.

Then the wings spread out again. They are a light mahogany-red with shades of brown, bordered by black lines, and on their bottom edge they are rimmed with little round dashes of purplish blue, like small windows into the sky, and the body is green. The butterfly's antennae have white tips. It has fine hairs on its back. Then, with a papery, fluttering sound, it is up with startling quickness from the ground; just out of reach, in the frequent manner of butterflies, as many a boy with a net has learned from hard experience.

What can we say about the American robin that has not already been said? All the same, I know him not. He still appears on the spring grass like a stranger. He lands there, then pauses, holding up his head for a long time. No worms? Then he runs off on his robin procedure, abandoning one area for another, where he pauses rigidly again, then cocks his head. The worm is found. This is assessable behavior. By this stiff pausing and then tripping ahead, a robin is apparently able to detect the slightest motion on the ground. We don't need to look for the emotion or consciousness of a robin beyond the actions to which it is stimulated by the immediate need for food. Utility is all. Or so I have been told. But the robin, like other birds, expresses its relation to the earth in terms of a set of responses which come from a head I know nothing about. It is an organism with much higher bodily temperatures than ours, with a much faster heart beat, burning up energy at a faster rate. Its experiences are entirely different. Down there, on that bird level, what is happening? What kind of awareness does it have, what kind of close, felt proximity to the stirring ground, the shadows, the lightly running wind?

Even the flowers, as if they were special custodians of those fires of light that run through May, seem to express more than the value we have given them. Trim little violets, white, pale blue, or lilac in color, or pink lady's-slippers blossom out and mark their separate places in the sun with beautiful emphasis. Each is significant. Each is inviolate. And, in a sense, are they not full of motion? In their growth, their seeding, their provision for continuity and

change of place, are they not free to run away? They fly in the winds. They grow and they fight for life.

Tiny white chickweed flowers begin to mantle some of our barren areas, and the plants are so quick and strong in growth, establishing themselves as if they had too little time, that they seem to be partners with fish that school and spawn in the sea, or nesting birds.

All the new tumult and excitement combines in what we call spring. Each facet of it, each life in its own right contributes originality, and there are communications between them which surprise us—distant, true, and unerring. I bear witness to them, without quite understanding. One late evening on the shore, the tide pools stand out like mirrors along dark sands. The air is cool. Light sparkles over the receding tide. The distances there, as always, seem sparse and immeasurable. I hear a sharp, wild cry, and then another, perhaps a quarter of a mile farther on. Two yellowlegs, I should judge. Theirs are the only sounds, besides the continuous breathing of the sea. Did one respond to the other? Whether it did or not, they are linked. The curved coast line is their orientation, and the wide evening a plane for their cries, and in the play of spring's advance it is a recognition, vibrant and unique.

Perhaps we come to some such realization of the greatness of nature's expression in spite of ourselves. We measure natural phenomenon with marvelous accuracy. We are always busy at it, cropping or adding names, readjusting interpretations, adding, subtracting, multiplying, and dividing. The miracle is still untouched. Why is the mindless flower less than ourselves and our assessments, or the bird's reaction less remarkable? That which is without mind is not necessarily heedless. Perhaps spring is a manifestation of mind; and its lives, all those facets of motion and beauty, behave in its context as familiars. Each responds in terms of an alliance intrinsically known, as with the birds along their shore.

Travel

For all my wonder at it, spring brings me into direct and close enjoyment. Down the distance to blue water, the young oak leaves in delicate silvery greens and pinks, swing in the full south wind. There is a wave of baltimore orioles. They seem to have arrived all at once. They dive through the tree tops and chase each other, living jubilations in orange and black, shouting out what sounds to me like: "This is the birthday of the Lord, Oh Joy!" Then a scarlet tanager appears, silently perching on a pink-leaved oak. It has so blinding and brilliant a color as to make no sense in terms of camouflage, or environmental adaptation, unless like the oriole, it is a treetop, sun-high bird, fitted to the colors of the sun, half tropical. Now it seems like a gift of extravagance.

Crane flies and gnats are swarming. Moths crowd the windows at night. The ground stirs with beetles and spiders. I watch a bumblebee digging a tunnel. Every minute or so a tiny yellow pile of sand appears at the surface and then tumbles down, pushed back by the bee, which half emerges, giving a little whining buzz, like a grunt of exertion, and then disappears down its hole again.

Toward evening I see a red-wing blackbird on the far side of a cranberry bog, epaulets ablaze against the low sun. It is attacking two impervious crows sitting on a tree, who must have just made a meal of red-wing eggs. It flies over and around them, back and forth, vainly, hopelessly.

A few terns, newly arrived, are courting on the sand flats beyond the shore. With light, airy grace, a male flies above a

female waiting on the sand, offering her a silvery fish. Then they both fly up and glide together across the blue and white reaches below them. Inland, two iridescent tree swallows go through similar formalities. A female perches on an oak post and the male constantly dips down and flutters above her, barely touching, performing a kind of aerial caress. Then he flies up and around her, with a chittering, trilling, clicking kind of sound. She flies down and pecks at the ground. Then both of them, in the growing darkness limber with new green and shimmering silver, wheel low together, in wide circles against the dying sun.

What I see, what becomes easy to see for any eyes, in the gentle month of May, is an approach to prodigality. We are not yet bitten, dulled, and pounded down by population, of insects or men. Blistering droughts have not come yet, nor excessive rain; but all the component parts of nature run ahead. Through the alternately warm and cool sweeps of weather, there is a steady pattern of growth. This is the season of progression, of fanning out, and as with the trees that have formed next year's buds, of provision for the future. The oak leaves which are limp and tiny to begin with, develop gradually. They toughen and mature toward their summer function of receiving and storing. They stretch, darken, and shine, turning from tenderness to ability. So it is with the fish hatched from the egg, or nesting birds, or the grass in the ground. To have had a son born this month, as we did, is much in keeping.

Birth is now the rule. I smell a sweet salt air. White petals drop gently to the ground. Birds, trees, and plants, life in the ground below them, are sprung by a constructive light. To follow spring is to make use of yourself. Join and be. Here is as much expanding energy as the human spirit could desire. Aspiration meets its counterparts, on all sides. If, as man says, he represents a climax of sensitivity in the evolutionary sense, then let him now employ his consciousness for all it is worth, and not delay.

Spring is loud and rich in its coming, but it is exact too, with a sustained propriety. Each life is in its place, its shade or full light. Each, held in the general change and roaming, to its neces-

sity. Fragile star flowers and wind flowers bloom in the shade of a wood of beech trees, while out on the open slopes and fields the beach plum bushes are heavy with fat white blossoms, inviting the sun's full strength.

In that valley where the alewives run, a narrow cut between low hills once made by melt waters from a glacier, and joining fresh-water ponds to Cape Cod Bay, there is now such a variety of life in such a variety of places as to challenge travel in all the senses. It reaches from the fresh-water ponds with their muddy shallows where pickerel weed begins to put up its stalks, painted turtles sun themselves on rocks out of the water, and sunfish make their nests along the sandy edges—from the pond waters gently lapping and smooth surfaces skidded by the wind—all the way through tidal marshes to the sea whose massive motion stands beyond us. Each area, first the ponds, then the brook, as it cascades down rocky slopes, turning as it winds through valley reaches into a creek, and then a tidal estuary, meeting the sand flats on the bay shore, each definite part of land or shore, has its newly active, co-ordinated riches. In the upper end of the valley, just below the pond outlet where fish ladders are crowded with migrating alewives, there is a wild and loud screaming of gulls. They wheel constantly over the stream, and crowds of them settle down on the water, quarreling over feasts of fish. Below them, black-crowned night herons bob and stand tall in a grove of pitch pines. When startled, they cluck and squawk like so many women over a scandal. When one of them flies too close to the herring gulls, it is chased away.

Two upland plovers skim in fast, crying high. A black duck whirs up, showing the white under its wings. The land at the edge of the marsh is full of yellowthroats, warblers with a quick, slurred call: "Weewiticha, weewiticha, weewiticha," as it sounds to me, and sometimes a softer "Chichibee, chichibee, chichibee." I watch one of these trim birds. It has a yellow breast and yellow head masked distinctively with black. It lands in the leaves, whips around, flits, quick and alert. Its colors fit with shade and sunlight



as though it had been conceived with them—a definite dash of light. In the stream, as it winds down toward salt water, subject to the rise and fall of the tide, small groups of alewives run quickly and persistently through the weaving currents, heading up toward gulls and then the nets and fishways beyond. I feel energy and motion demanding me. Seen or unseen, a flying, starting, striding, swimming, and inviting, makes of the present and its short lives an endlessness.

It is low tide where the channel meets the shore. Warm, hazy air rises over the bare landscape into an empty, chalky-blue sky. But the wide-ribbed sands are run over lightly by gold braided waters, light catchers full of motion, flexing and rippling. Crustaceans dart through them. Periwinkle tracks straggle across the sands, and the empty shells of razor clams litter the surface, along with the worm cases stuck with shells, seaweed and grains of sand, protruding above it; and there are black horseshoe crabs partly dug in, waiting for the tide to turn. The three-toed tracks of shore birds are everywhere, and farther out, through a light wind, a rushing sea sound, I can hear gulls calling low, muttering among themselves, and the unmistakable harsh cry of a tern.

Sanderlings, black-bellied plovers, ruddy turnstones, are dipping up and down, scuttling, or tripping ahead as they feed. In the distance the turnstones, mottled black and brown, with short red legs, look a little like quail.

Two herring gulls are pulling hard at a sand shark, stranded by a tide, or perhaps killed by some fishing boat when it was brought up in the nets. They work at it furiously, tugging and tearing from both sides, since the sand shark's hide is like sandpaper and many times as thick and tough. When I come up, I can see that they have not managed to do much more than tear out some of the flesh from its head and neck. Judging by the tracks on the sand, they must have been hauling it around for some time.

Far far out, I thought I saw a man digging for clams on the flats, but after walking for half a mile in that direction, I am astonished to see a yearling deer starting in a leisurely way toward

the land. It had probably browsed its way out, nibbling at bits of tender seaweed, licking salt, encountering no danger in the expansive room that borders land and sea. Now, with the motion of its long legs showing in all detail as I have never seen them in fields or woods, the deer starts to run slowly, with an almost loose loping. It stops, looks around uneasily, and then the legs unlimber again, but hesitantly. It looks suddenly in my direction; and bounds and bucks away, its legs now working with tense speed. Through my field glasses I find a man and a boy on the beach. Seeing them, the animal changes course, gathers more speed, and when it reaches the shore, dashes up the sloping beach and disappears into a green line of shrubs and low trees.

The separations on these sand flats are vast. Where the narrow inland water course issues out, nothing is so well defined as space. For the variety of action here and in thousands of miles of deep water beyond, range is the rule, and the brook leads to the sea as all things lead to each other. Our meetings have scarcely begun.

June

The Garden

“June, June, I beg your pardon, for walking in your garden” is a phrase from an old song, which expresses the delicacy you might feel on some moonlit night about treading a path through fragile shadows and flowers, or intruding by day on their young beauty. The song expresses it succinctly; but the fact of the matter is that the June garden is suddenly so rich and widespread that there are no paths to walk on. It is unavoidable. I find myself wondering how it happened—how it happened that I now take it for granted. My small daughter asked me the other day whether or not the trees wore leaves in the wintertime. She was not quite sure. We have come back to fruition unawares.

The effort has been made, the strength achieved. In the past three months we have gone from death to birth, to unfettered growth, and have already forgotten what a great and elaborate process it was. I can remember—or I have it in writing (the aid to memory)—that on the twenty-fifth of March there was a light snow in the morning, and that the temperature was well below freezing, with strong north winds all day. The significance of the twenty-fifth comes from its often being used as an average date for the first sound of the spring peepers. That day the whole idea seemed impossible. And yet they sang, two evenings later. Of course the whole year is the scene of birth and growth. Spring is not the sole custodian of arrival. There are flowers that bloom in the autumn. But that was our last beginning, in immediate terms. We have lived through what followed with only the scantiest kind of recognition, to arrive now with a great new crowd of shapes and

•

sounds filling the distance, in the muscular swing of light. Flowery grasses, wild flowers like vetch, daisies, coreopsis, buttercups, and hundreds of others, head up, shoot forth, dance in the sun and compete with one another for living space—part of the rush and race of life we take for granted. The fact that we do take it for granted may be the best proof of our deep connection with it, as with all the natural rounds of the year. We breathe and give birth and die in terms of the same force as these surroundings. It is less articulate with us than realized. The new measures have a steady underlying order which pulses in us like the tides. So I suddenly look around me and find the whole earth peopled with motion and quantity, searching and adjustments, and I find it familiar.

In the warm air the land seems bound together by a whirl ticked off in the grass by field crickets, lighted at night by the slow-dancing fireflies, intensified on the millions of new leaf surfaces, petals, and stems, where insects alight, crawl, and eat, many races pursuing their separate ways, aligned with thousands of life communities in function and in act.

June has gone green, with a staggering assumption of authority. The dry land ferns stretch stiff and wide like fans. The huckleberry bushes are springing with light green. The oaks heave and rise with their bounty of fresh leaves. Meadows along the shore are green with samphire; and marsh grasses, still low, looking close-cropped above the dark peat or through rushing waves at high tide.

On the lee side of a stone jetty thrusting out from the shore the water is full of plankton. Tiny marine animals, like barnacle larvae, copepods, baby jellyfish, are being gently carried and lifted by the surf. They are whirled and drifted in the water as it swells and ebbs. There is a beautiful symmetry in these fragile, transparent animals. I notice tiny beads of air along the sides of some of the jellyfish.

In some inland waters joined by inlets to the sea, there are massive numbers of adult jellyfish at this time of year, pulsing





slowly through green waters, like transparent animal flowers. The riches of the water, fresh or salt, are immeasurable.

More and more adult alewives are returning to the sea after spawning in ponds and lakes, running back through marsh lands filled with cattails, wild iris, rushes, and arrowheads. Behind them they leave their progeny, which have in fact been hatching out for the past two months, and are gradually becoming so numerous as to interfere with the sport of fishing. These "bait fish" feed bass, pickerel, and perch, which now refuse to react to a mere fly or worm, having more than enough to eat.

There are no waters, no wood or square yard of ground not sounding and moving with new life. A wild readiness, a fluency is here. Within its terrestrial order and confinement everything seems incalculably bold. Now is the time to run ahead. Now, even for our special race, is the time to take the necessary risk of new connections, new affinities. This is a world of alliances.

I walk through a wood of trees—which might be in Cape Cod, Japan, or Siberia—their gray trunks spotted with dancing shadows, a naked wealth in motion, thinking that a man might find himself for the first time in this company, not because of would-be similarities—sap and blood, branches and arms—but because of a context which they share. I am an organism that can make a choice. The tree is not; nor can it suffer. To simplify the matter too much, I am an animal. The tree is a plant. But in the whole environment, with its intertwining events, its varying energies, each form of life joins and takes part. In this wood, while the wind blows across us and yellow light dances through, I think that even a man and trees, with their vastly different responses, may be together, players in a sunlight game.

Room to Spare

June is a fullness. There is no part of land and shore not imbued with warmth and covered with manifestations of strength and capacity, but the season moves on. It changes to new measures continually, beautiful in substance but hard to grasp, like a flock of sanderlings swinging and spinning in unison along the bright sands, or a school of fish. How do they keep together? What is their communication? Even a forest of apparently rigid trees has a coherence and order of its own, perhaps a sensibility, since it goes through all periods of existence. Everywhere I look there is spacing, and at the same time mutual attraction, in rhythmic display, as though the laws of space were inherent in every action and bound in every organism. The play of the universe is what I sense in its living instruments, and my own, often borrowed, interpretations stop far short of its magnitude.

Out of the whole possible range of communication (and it seems to me to go beyond possibility) each species embodies a special response. Its senses react in a unique and selective way toward its surroundings. It is true of the frog. What does it hear that we cannot? It is true of the fish. How does it orient itself in the water? What does it feel? What explains the sensitivity of some plants to touch? Each have motions, and in a sense languages, of their own.

How can I understand the hundreds of moths that crowd the screen door at night? They have all manner of shapes. When I shine my flashlight on them their eyes glow with an amber fire. They flutter against the screen, and when I turn the inside light

off, fly away immediately. This is a sensitivity to light and darkness that has its parallels in the butterflies attracted to flowers of a particular color. They are selective in their behavior and perhaps restricted at the same time. And yet, huddled, crawling, landing, and flying off, concentrated in numbers as they are, they suggest a dark realm of action and context to me. In spite of their reactions their terms are unknown. It is these untouched areas which must attract any man who begins to be aware of them—as though we ourselves had something in us not yet understood. Where the mystery is, may be the reality.

What we see, even from the outside looking in, is rhythmic performance, not a series of static events. Balance and rhythm are the rules of action, understood in depth by moth or fish. Each race, unknown to the other, plays its own game, follows its own senses, and yet is in balance with the rest of life. The rules of natural abundance are the rules of space—not almost constant destruction and collision between living things but obedience to their given orbits.

Many people have the idea, perhaps because of a human fascination with violent events, that nature is compounded of just such rigidities—dog eat dog, or tiger eat horse—or obversely, that nothing happens at all. Nature is either a menace or a great bore. Could I expect, going to some pond or water hole concentrated with life to find all kinds of mutual slaughter going on? At the edge of any small pond I see action enough this time of year. Many tadpoles hurry off in all directions at my footfall. I hear a bullfrog's noble plucked bass sounding among the pickerel weed, while dark gray catbirds cry in thickets along the shore. A great antediluvian animal, a snapping turtle, with a fat black shell, a thick, fat head and neck, and large lidded eyes like a dog, climbs out of the water to lay its eggs on a sandy bank above. Its movements are slow and massive, each leg lifted as it goes. Only a sudden, lunging, upward snap as I tease it with a stick, shows what quick ferocity it is capable of. In the still pond waters there are schools of tiny, newly hatched fish, big-eyed, big-headed, with minute pin-sized bodies, running

and twitching in rhythmic solidarity. A yellow perch runs by, and then a horned pout roves through the fry with apparent disregard. It passes near a sunfish nest, a little round, cleared depression on the bottom. The sunfish sallies after it in a short dash and then returns to hover over its nest, its fringed tail waving gently. In spite of our expectations, any aggression here is latent rather than actual, and need, it is clear, has room and time to spare.

Co-ordination is intrinsic to the life of an environment, acted upon by every predator. There will be no fight between the sunfish and the horned pout, but the sunfish has affirmed its ancient rights to the territory that comprises its nest. It is bold in defense of its home, up to the point, presumably, that it goes beyond a boundary which its feelings establish for it. I am reminded of those birds, like the herring gulls and their "threat postures" (described by N. K. Tinbergen in *The Herring Gull's World*, 1954) assumed when two birds defend their respective positions on either side of a boundary invisible to us but strongly felt by them. In these cases a fight may never result, because the two alternate drives of defense and aggression cancel each other out. What the trained observer sees as an indication of what is going on are "behavior patterns," types of physical action that show him what this gull communication might mean. In any case, up and down the scale of life is force and counterforce, action and reaction, in a balance that is understood in as many ways as there are species.

The lusty month of June is made up of all its encounters, many of them savage in isolation; but we may look for Roman circuses in vain. Wait all day and no life seems to devour another. Wait all year and you may never see the fight you are looking for. Now and then to be sure, as with an abundance of fish and their marauding predators, you can see savagery and greed confined, but even so the lesson is the same. It is not killing, eating, and aggression which seem paramount but an over-all rhythm and balance in which they are only elements. Later on, between July and December, the young alewives hatched out this spring in pond waters will start returning to the sea. I have often seen them

as they go down the fish ladders by which their spawning parents came up. Perhaps through some attraction to the water's force where it spills down hard over the concrete rims of each pool in the ladder, the fingerlings mass and circle before dropping back downstream. It is here that a number of eels, some of them of large size, coil and slither through the water, and eat large quantities of fish. Eels are largely nocturnal in habit, but they do go through periods of feeding by day. Sometimes they act like eating machines, methodically grabbing one little fish after another; but the alewives continually swim over them, unregarding. Where the fish idle in the stream below, in less turbulent, clearer water, perfectly capable of seeing any eels lying in wait for them, they are in no way affected, so far as I can see. The eels themselves, lying on the stream bottom for long periods after eating, pay no attention while the little alewives swim over them. Here is a strange relation between enemies.

It is perfectly true that a young alewife may not know an eel from a stick unless it is directly attacked, being in some respects oblivious to much of anything except the need to migrate to salt water. And yet the point is not that they are "stupid," but that their crowd lives demand a cohesive rhythm, sensitive enough in action, which is paramount to all risks they encounter. It is in fact their main protection. They school and eat. They school and escape. They school and perpetuate themselves. The solitary alewife is lost. These fish move and intercommunicate in a frame of continuity to which they are forever held. But can we call it a restriction? Its terms may be quite invisible to us.

The Binding Rain

So this is, or was, Cape Cod, as June booms with fruition. The nights throb; and on a clear one how the long frames of the stars line up overhead! There is no end of internment, no end of use and opening out.

It is not the place I came to, out of the city, though its shape, like a giant curved arm, or fish hook lying out in the Atlantic, is the same. Its oak trees have grown, even in the comparatively few years I have lived here. The old, gray-shingled houses are still in evidence, but there are many more new ones, seemingly temporary as this age goes. The shores are crowded, beginning toward the end of June. We are scrambling to take advantage of our summer economy while it lasts, although the buzz saw sounds the year through, as well as the chickadees, building motels, summer cottages, gas stations, houses for the retired. Cape Cod still has a certain itinerant quality, which may ally it to its more seagoing past.

In my own terms the Cape is not the same. I have outlived my dependence on its past. I go by the seventeenth- and eighteenth-century gravestones with less interest. The "old characters" are not around to talk to any more. I am not quite so fascinated by grown-over wagon tracks as I used to be. Something pleasant is lost—even a blessed continuity. Still, I have learned to look for another, which has no particular choice as to place, joining them all.

This is not just "natural history" I have found, unless you are also willing to call it "natural mystery." This is life, or death-in-

life, as well as "nature." In any case it is bountiful, or niggardly, relentless, terrible, but always at hand. Only walk out and see. Cape Cod is rife with unknown lives (and what I know about its ocean waters is not worth mentioning). Where do we begin? With a first question perhaps. To make it is to recover from being afraid of getting or giving the wrong answer, a step toward knowledge.

I have not learned much about cell structure, or the delicate co-ordination of organisms in their environment, or some of those remarkable mechanisms that trigger action in certain plants or animals of land and sea; but I have made that first step.

I stand by some pond, wondering how deep it is. Everything around me says, in comparative silence: "As deep as you make it," and I have no need to think my questions will delay the source that leads them on.

The rolling energies of nature remind us of our own potentialities. In a small country field is all existence and its hazards. Ponderous storms, killing balances of cold and heat, great rains or droughts, hang over the needs of its competitive inhabitants. A natural, unimpeachable violence wipes out untold numbers, or holds them to its order. And yet the plants and animals themselves that endure, survive, and die prove an essential vigor in the process. It is not only a matter of "food gathering" and "competition" for them. They fight the winds, in rhythmic unity. They are made to face the universe, with the universe inside them. Their motions, their changing adaptation to circumstance, are also their great self-expenditure. Live and be finished off, but above all live!

This Cape Cod, this special piece of America, has its unexampled strength and a "progress" which will not take second place to our own. Sun and rain, the capacities of earth, the mindless ways of the flower, the strange and short sensitivities of the insects in their other world, the brooding sea in its ominous tidal balance held by moon and turning globe, all this matrix of energy has its standards and its abiding needs.

It rains steadily as the tourists begin to drive down the Cape in ever increasing numbers, thus abashing their spirits. Rain is a nuisance. It keeps us in and deprives us of perpetual warmth and light. If there were no rain? Drought is only on the surface. Water comes from pipes, the way milk comes from refrigerator cars.

But the rain will not be stopped. Clean, cool, straight falling, pattering on multitudinous leaves, it insists on its own power and propriety. There is no wind. The calm gray sky is gently, loosely moving, but held dead center with its riches of rain. The fall is steady and fast above the treetops, with single drops ticking off from each waxen leaf, sliding down the pine needles to end at their tips in brilliant crystal eyes. With a thin long seething it spits and spats and trickles on, pausing occasionally, then putting forth again. The water lands on the dead leaf floor under the trees, or thick beds of needles, sliding and soaking through, making gradual displacements between litter and soil, stirring gently, providing the life of earth its refreshment and guaranteeing its sustenance.

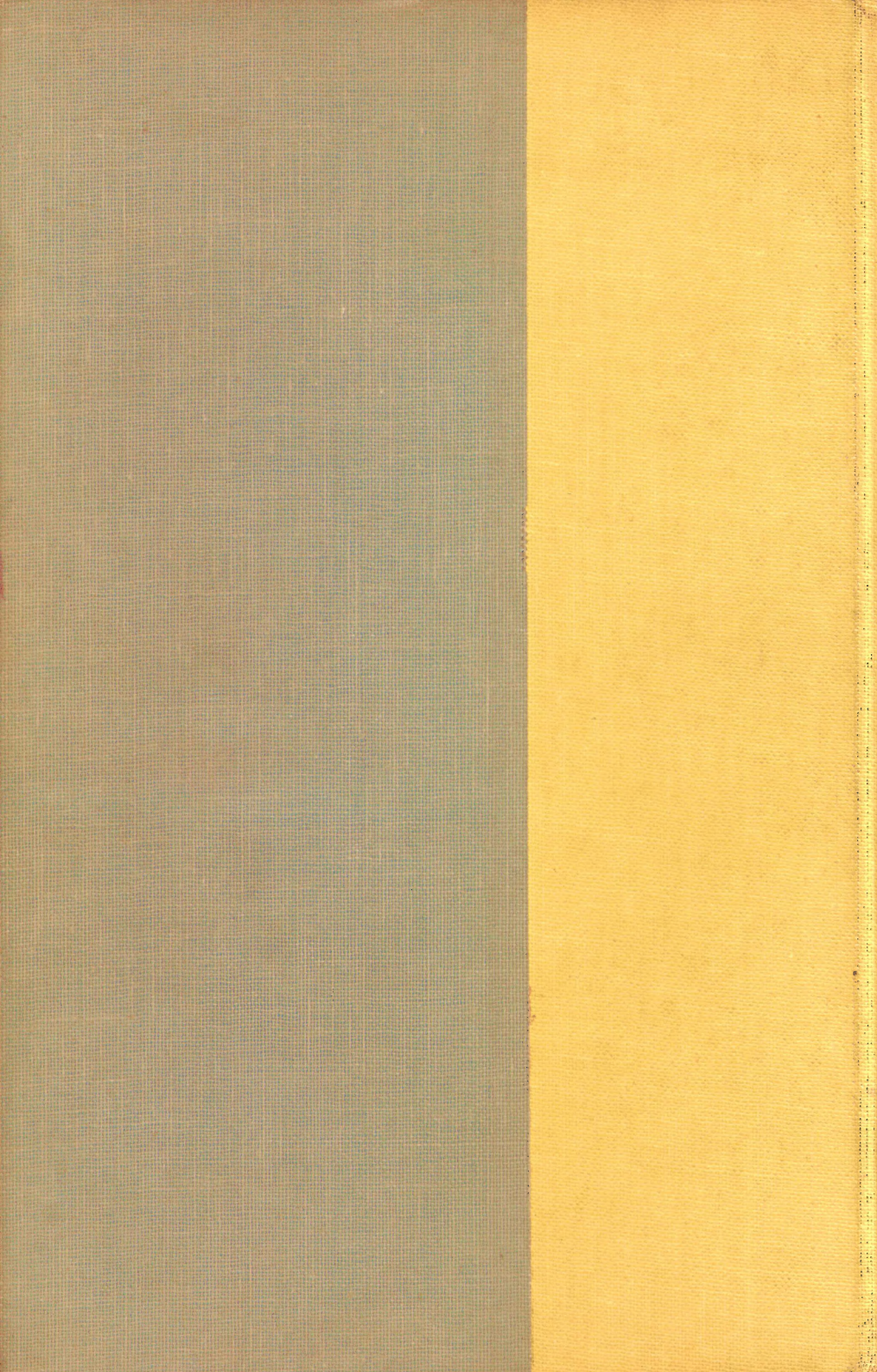
Between pond lilies and reeds the rain spatters the fresh water. It changes the lakes and ponds as it changes the earth. The water level moves up and down from year to year depending on the rainfall. In a pond it will move up the rim and cover the roots of overhanging shrubs—blueberries, alders, or swamp azaleas—then, after a year or two, it will recede again, revealing a narrow beach. During the years there will be continual, subtle alterations in the nature of plants around the pond, and in the habits of the animals dependent on them.

The rain falls through woodland bogs, and open swamps. It trickles down bare slopes and thicket-studded valleys. It runs over incessantly moving brooks and streams that bear it toward the sea. Its drops bounce with silvery emphasis across the waters of the slow, gray tidal inlets. They sound like a breath along the sands, and while arrowlike terns are excitedly diving for fish, they pock the silver-streaked levels of the bay, and then are lost to sight, pattering out over massive waters.

Even and sweet the descent, calm and clean its provision. The

rain thrusts in and guarantees immediate growth. It binds the birds to the insects to the plants, to sun and air, breaking down elements in the soil, loosening it for billions of its travelers, making sure of sustenance in that release. Rain sound in June, which at other seasons may cut like a knife, is one of beatitude. I listen. I accept. It carries me on. Out of the hollow mind of the universe what conceptions may come in the millions and millions of years ahead? How many, in the next spit of timelessness, will fall prey to disaster? Both calm and calamity are in the cards. This is acceptable enough to life in nature. And who am I to claim some vain detachment?





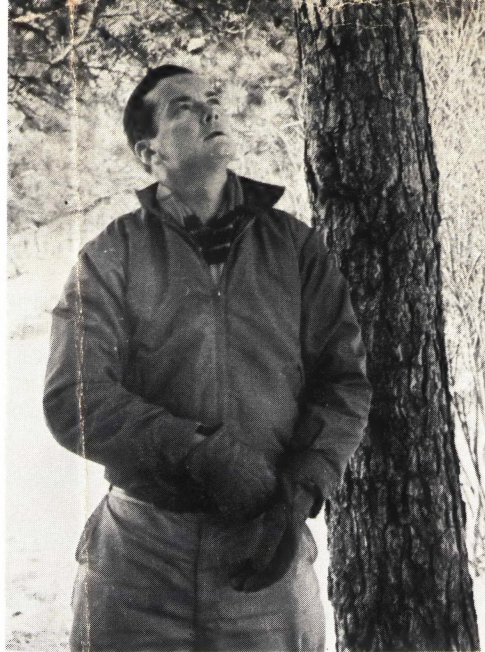


PHOTO BY KRISTI HAY

JOHN HAY was born in New York City and educated at St. Paul's School and Harvard University. Prior to serving in the Army, he studied writing with Conrad Aiken, and while in the service became an editor of *Yank*. Mr. Hay has published a book of poetry, *A Private History* (1947), and has contributed to magazines as varied as *Poetry*, the *Atlantic Monthly*, and *Natural History*. His earlier book set on Cape Cod, *The Run*, was published in 1959 and was immediately hailed as one of the finest nature books of the decade.

John Hay is president of the Cape Cod Junior Museum in Brewster, Massachusetts, and lives with his wife and four children on a hill overlooking Cape Cod Bay.

DAVID GROSE, the illustrator, was born in Amherst, Massachusetts, and attended Pratt Institute in Brooklyn before settling on Cape Cod six years ago with his wife and two children. His favorite subjects are outdoor scenes and animals, and his favorite media are oil and casein, and wood engravings.

Printed in the U.S.A.

John Hay's first book, *The Run*, dealt with the migration of alewives in the streams of Cape Cod, and received praise throughout the country. Here are a few examples:

- "Mr. Hay writes with a sense of wonder, in prose that has the impact of poetry, conscious of the philosophic overtones inherent in his subject and in the enigma of all life."

Boston Herald

- "Invites comparison with Rachel Carson's literary netting of things from the sea, or Joseph Wood Krutch's meditations upon matters animal, vegetable and mineral."

Leslie Hanscom—New York World-Telegram

- "Enchanting . . . John Hay writes as a poet-observer in the presence of one of the most mysterious and moving rituals. . . . He has eyes, the ability to collate . . . a total sense of wonder, and a reverence for nature."

David McCord—New York Herald Tribune

- "Whoever called John Hay 'a twentieth-century Thoreau' was not far wrong. He is indeed a rare combination of skilled naturalist and accomplished prose stylist."

Evansville Press

- "A vivid and moving adventure filled with color, excitement, and beauty."

San Francisco News

- "A noteworthy addition to any library, and a book to be savored over the years for its memorable, often mystical commentaries on the forces of nature which direct and guide us all."

Roanoke Times

- "Absolutely first-rate. . . ."

The New Yorker